FIRE ENGINEERING

JUNE 1960

The Journal of the Fire Protection Profession Since 1877

A Reuben H · Donnelley Publication

JN 27 1960
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Boston fire fighters, climbing ladders to apartment house blaze on May 11, caught this panic-stricken man in mid-air when he leaped from window to escape smoke and flames

MAXIM *quality may cost a trifle more . . . . .*

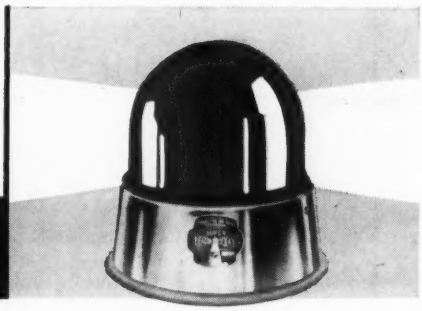
but experience proves it's worth it . . . . .

Thoroughly satisfied customers from coast to coast will tell you "nothing beats a MAXIM" . . .

MAXIM MOTOR COMPANY MIDDLEBORO, MASSACHUSETTS

Coast to Coast

FEDERAL



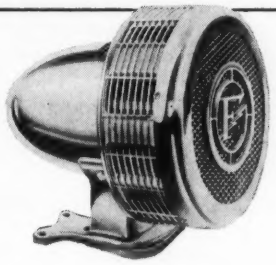
IS UP FRONT!

—and to use a popular radio-TV commercial—
"It's what's up front that counts"—
and this holds good for fire apparatus too.

Experienced fire fighters know how much
depends on a real siren and warning light.
They feel safer, and *are safer* riding behind a protecting
FEDERAL Beacon Ray light and a FEDERAL Coaster Siren.

The smart buyer *specifies FEDERAL*
and wise manufacturers like to put them on their trucks.

Be sure *you Specify* a FEDERAL Q2B Coaster Siren
and a #174 Super Beacon Ray on *your* new apparatus.



* A new 1250 g.p.m. class "A" pumper with 500 gallon water tank. Powered with a Hall-Scott 6156FE engine through synchro-mesh transmission. Has 5 man cab, power steering and extra-heavy-duty air brakes. Protected by a FEDERAL Q2 Coaster Siren and Beacon Ray light. West Coast built by P. E. VanPelt at Oakdale California for the Mountain View Fire Department.

FEDERAL SIGN and
SIGNAL Corporation

13602 S. Western Av.
Blue Island, Ill.

FIRE
ENGINEERING

VOL. 113 JUNE, 1960 NO. 6

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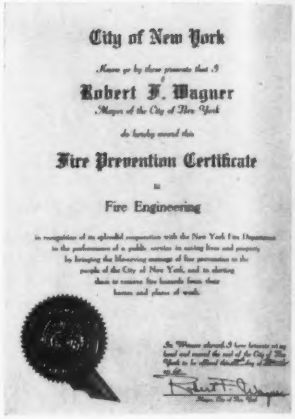
City of New York

Know ye by these presents that I

Robert F. Wagner

Mayor of the City of New York

do hereby award this

Fire Prevention Certificate

to

Fire Engineering

in recognition of its splendid cooperation with the New York Fire Department in the performance of a public service in saving lives and property by bringing the lifesaving message of fire prevention to the people of the City of New York, and in alerting them to remove fire hazards from their homes and places of work.

In Witness whereof, I have hereunto set my hand and caused the seal of the City of New York to be affixed this ... day of ...

Mayor, City of New York

Honor From New York

The above certificate was recently awarded to us by the Honorable Robert F. Wagner, Mayor of the City of New York.

This unexpected honor was bestowed on FIRE ENGINEERING in recognition of its cooperation with the New York Fire Department in fire prevention education.

Naturally, we are very proud to have been recognized in this manner by the world's greatest city. In accepting the award we again pledge our continued efforts to assist in every possible manner all fire departments and the communities they protect in a never-ending war on uncontrolled fire.

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UNISPUN FIRE HOSE

Continuous Uniform
Single Filament Filler
Co-Axially Spun Fire Hose

UNISPUN fire hose is engineered for the modern fire fighter. A major scientific breakthrough from ordinary methods of *weaving*, UNISPUN hose is formed instead by *spinning*. High performance fibers, after blending, are *spun* into constructions at high rotational speeds with extreme precision and uniformity. This new capability to produce *spun* tubular fire hose, another exclusive FABRIC achievement, is an effective assist to the modern fire fighter in search of the best equipment. For further details, write us today or contact your authorized FABRIC representative.

Spun formed to these PERFORMANCE specifications

ZERO TURNS ZERO RISE

ZERO WARP

FABRIC FIRE HOSE COMPANY

SANDY HOOK, CONN.

IN CANADA *Pierre Thibault* CANADA, LTD., LTEE., PIERREVILLE, QUEBEC

MSA
SAFETY EQUIPMENT HEADQUARTERS

MSA backs up its label with:
selection—quality—research—experience

Increase firefighters' safety and comfort:
Convert breathing equipment to new M-S-A® CLEARVUE* Facepiece

M-S-A® "All-Service"® Gas Masks with new CLEARVUE® Facepiece protect against combinations of carbon monoxide and all other poisonous industrial gases, vapors, smokes.

Breathing equipment converts easily and inexpensively to the single lens CLEARVUE. It's the *only* facepiece that offers all these features:

- Lens is easily replaceable in the field without special tools.
- Lens fastening device creates uniform tension.
- Prevents loosening, pop-out, and leakage.
- Prescription glasses may be easily mounted and adjusted inside the facepiece.
- Chin stop eliminates improper positioning and wearer discomfort.
- Exhalation valve is well guarded from possible damage, yet readily replaceable.
- Molded lip inside the facepiece provides a comfortable leak-tight fit on wide variety of faces.
- Improved speaking diaphragm permits crisp, clear communication.
- Facepiece design prevents lens from fogging.

Want a demonstration? Call your MSA Representative. Or, write us for new bulletin. Mine Safety Appliances Company, Pittsburgh 8, Pennsylvania. In Canada: Mine Safety Appliances Company of Canada Ltd., Toronto 4, Ontario.

*Trademark

New BFG Diamond hose has all-Dacron jacket that outwears all others, is never weakened by mildew

ONLY a hose that's terrifically light and flexible could be twisted into such a tight knot! An all-Dacron jacket makes this new B.F.Goodrich Diamond fire hose light weight, easy to handle; yet so tough it will give far longer service than any other type of hose.

B.F.Goodrich has tightly woven Dacron fibers into a hose jacket so strong that abrasion tests show it will outwear ordinary cotton-jacketed hose many times over. It resists snagging. Mildew has no effect on it. Oils, greases and most chemicals can't hurt it. And it absorbs far less water, which means that it stays light and flexible, dries faster, is less likely to freeze in cold weather.

Plylock end protection (an extra layer of hard-woven cords extending 12" from the coupling) adds 100% more strength to the coupling area. A special rubber compound used for the tube stays elastic and tough throughout the life of the hose. Coupling has Koroseal swivel gaskets that seal with hand tightening, never have to be replaced.

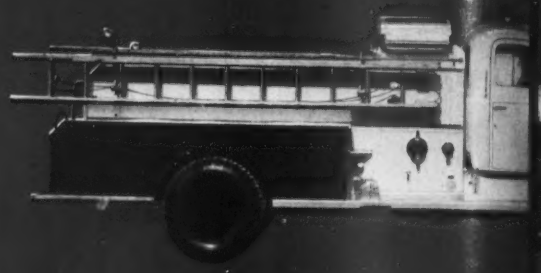
If you're looking for the best buy in hose, get B.F.Goodrich Diamond hose with all these quality features. It may cost more to begin with, but will actually cost you less in the long run. Your B.F.Goodrich distributor can tell you more about it. *B.F.Goodrich Industrial Products Company, Dept. M-848, Akron 18, Ohio.*

FIRE HOSE BY B.F.Goodrich

FROM EVERY ANGLE

HPV* FIREFIGHTERS ARE FIREMEN-DESIGNED, FE

From every angle—performance, features, dependability, design—John Bean makes the best apparatus available for versatile, effective fire protection. Every feature, perfected by John Bean firefighter engineers, results from recommendations of firemen and chiefs in departments throughout the U.S. More design suggestions come from John Bean field sales representatives, many of whom are former fire chiefs. See for yourself with a demonstration in your community. Then you'll agree that John Bean meets your fire protection needs best.



HPV's*

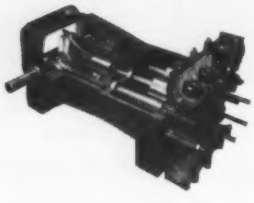
2-WAY PUNCH—

***HIGH PRESSURE FOG**

AND VOLUME PUMPS

John Bean High Pressure Fog and Volume equipment gives you the combined fire-fighting power of two great pumps—John Bean's original high pressure fog pump and the Class A, Underwriters'-approved centrifugal volume pump. For fast attack, high pressure fog stops fires before they grow. When you need volume, you can depend on John Bean's unmatched performance. Get both proven methods in the same apparatus with John Bean HPV.

FAMOUS BEAN HIGH PRESSURE PUMP



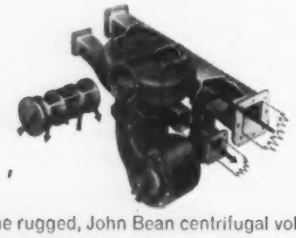
This original high pressure fog pump operates at 850 psi, delivers 60 gpm through two hose lines. Self-priming, it can be supplied from tank, hydrant or draft source.

PATENTED FOG GUN

(3 guns standard with each unit)

Easily operated by one man, this famous gun features instant, on-off trigger action. Rotating barrel permits quick selection of fog patterns from close-up sprays to long range fog.

CLASS A VOLUME PUMP



The rugged, John Bean centrifugal volume pump is N.B.F.U.-tested and approved for performance dependability. Available in capacities of 500, 600 or 750 gpm.

400-FT. HIGH PRESSURE HOSE

Standard equipment with each HPV Firefighter includes two, 200-ft. reels of special, high pressure (5000 psi discharge) hose.

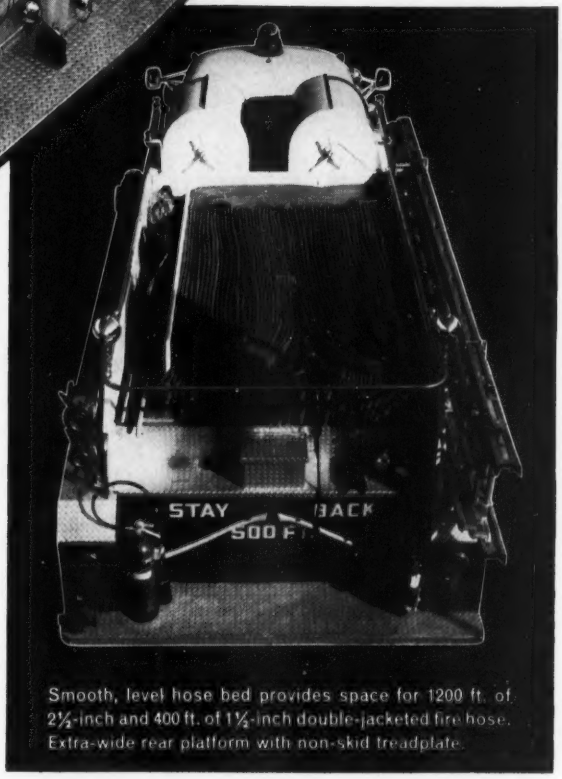
20-FT. SUCTION HOSE

Other standard equipment includes two 10-foot lengths of 4½-inch hard suction hose, complete with hydrant adapters and suction screens.

For PROOF of John BEAN FIREFIGHTER EFFECTIVENESS, WRITE

John BEAN®

FEATURE PACKED



Smooth, level hose bed provides space for 1200 ft. of 2½-inch and 400 ft. of 1½-inch double-jacketed fire hose. Extra-wide rear platform with non-skid treadplate.

HEATED REEL COMPARTMENTS

Two enclosed reel compartments, as well as pump, valves, gauges and controls are warmed by engine heat to assure dependability in freezing weather.

500-GAL. WATER TANK

Big, 500-gal. tank supplies water for high pressure fog lines. Baffling prevents water surge, assures smooth cornering.

BALL-TYPE DISCHARGE GATES

Rugged, quick-acting gates will not leak under pressure or suction, turn easily at all operating pressures.

RUGGED CONSTRUCTION

Body panelling and compartments are special 12-gauge steel, completely reinforced with U-formed top.

THE **ORIGINAL** *HIGH PRESSURE FOG*

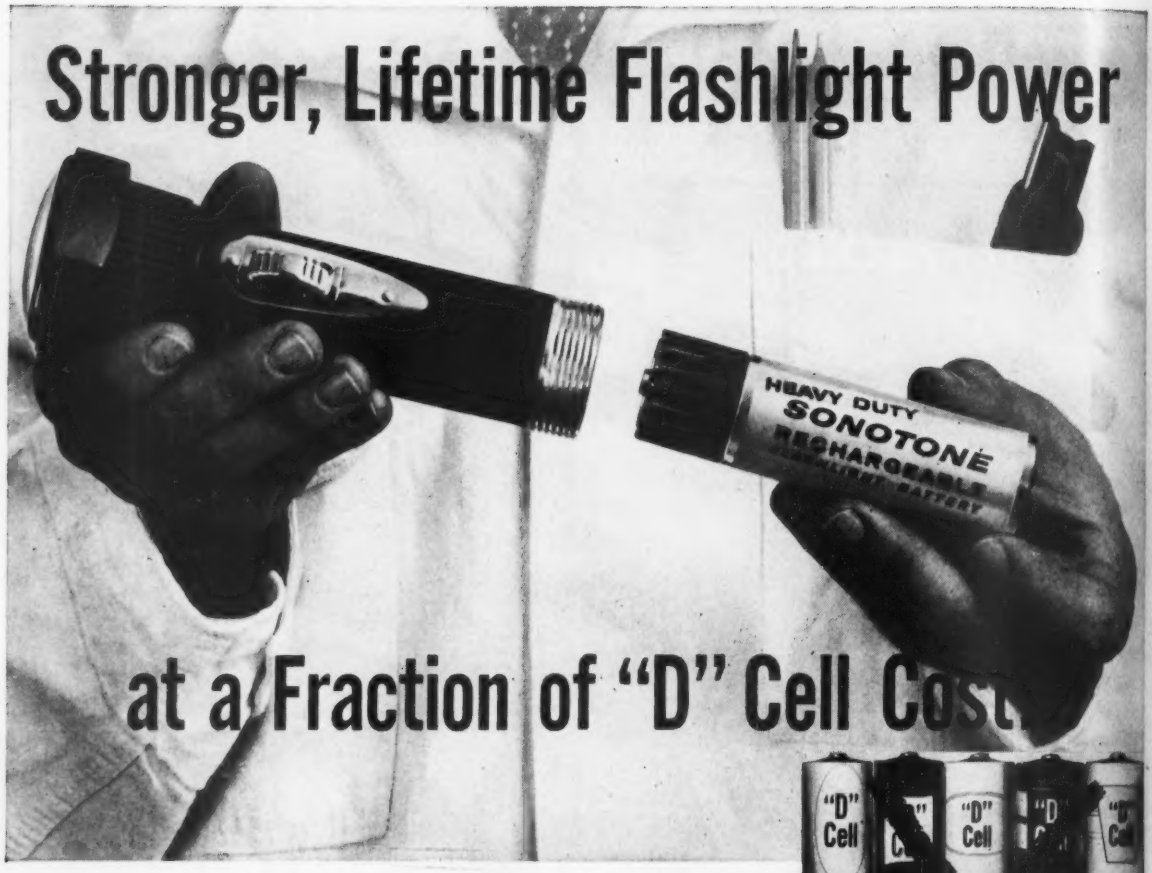
TODAY for DEMONSTRATION

John BEAN®

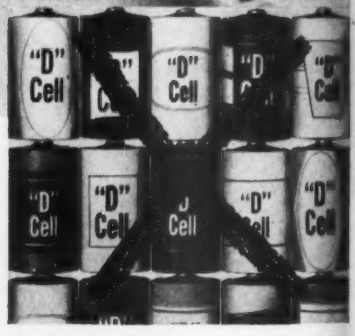
DIVISION OF
FOOD MACHINERY AND CHEMICAL CORPORATION
LANSING, MICHIGAN — SAN JOSE, CALIFORNIA

fmc

Stronger, Lifetime Flashlight Power



at a Fraction of "D" Cell Cost



Heavy-Duty Sonotone Rechargeable Flashlight Battery Cartridge

To recharge, just unscrew cap . . .

and plug overnight into any 110-120-volt AC outlet.

- A multi-use adaptation of the patented Sonotone sintered-plate, nickel-cadmium battery used in space missiles and jets.
- Gives at least 3 hours of strong, continuous light from a single charge with PR-6 bulb—or 1½ hours with full-powered PR-2 bulb.
- Dependable in extreme temperature and weather conditions.
- Can be recharged hundreds of times at about ¼¢ per charge.
- Sturdy, leakproof construction—aluminum jacket—electrically shockproof.
- Full-year guarantee under heavy industrial use—backed by Sonotone's leadership of over 30 years in precision engineering and service.

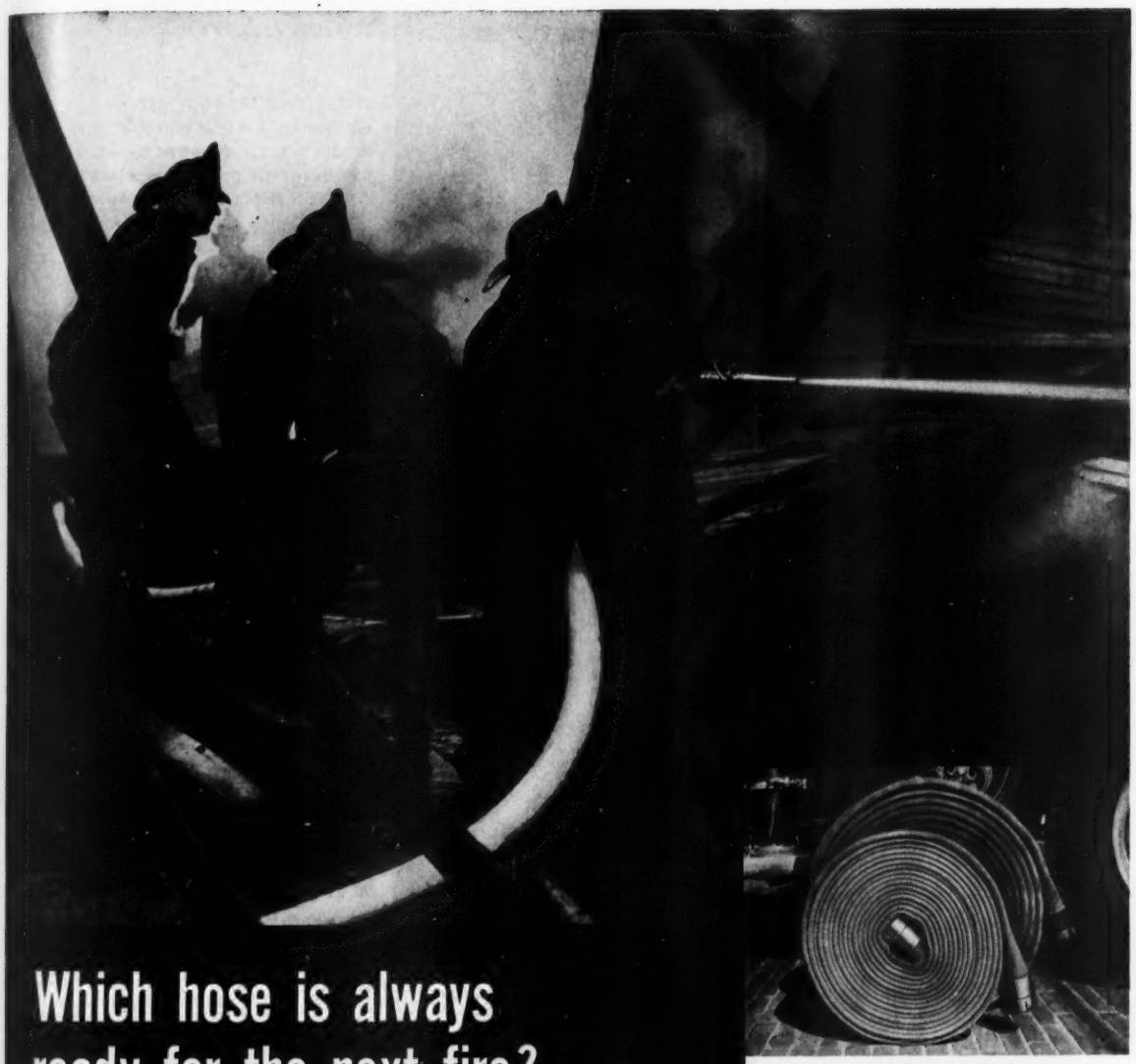
A completely new concept in flashlight battery efficiency and economy for industrial users! Replaces and outmodes any two "D" cells, for any purpose, in end-to-end use. Rechargeable overnight by plugging into any 110-120-volt AC outlet. Gives maintenance and service personnel a battery with a lifetime of use at a fraction of the cost of constantly replaced "D" cells. Dozens of applications—with railroads, aviation lines, municipal departments, public utilities and private industries. **Heavy-Duty Model FC-3** ($9.95 retail)—subject to your usual discounts. Also **Standard Model FC-2** for home use (light lasts at least 1½ hours with PR-6 bulb)—$7.95 retail. Write now for full details to:

Sonotone® CORP.

Battery Division, Dept. B57-60

ELMSFORD, N.Y.

Leading makers of fine transistor hearing aids, ceramic phonograph cartridges, speakers, microphones, electronic tubes, sintered-plate, nickel-cadmium batteries.



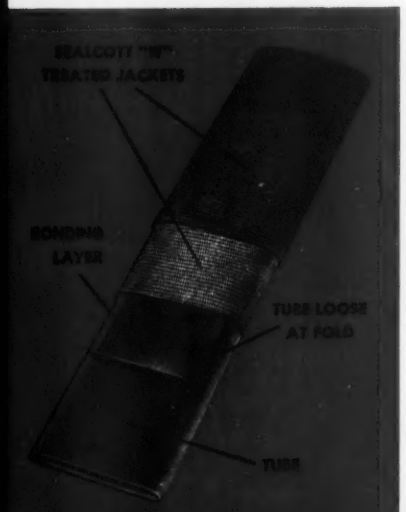
Which hose is always ready for the next fire?

Unless the white untreated hose is dried within a short time it will be subjected to attack by mildew and rot. This cannot happen to the other hoses. They are protected by Acme-Hamilton's Sealcott "W" mildew resistant treatment. Because the mildew fungi cannot penetrate the cords in the jackets, Acme-Hamilton hose is always ready for service.

Energy 600-lb. test hose treated with Sealcott "W" is dependable and easy to maintain. Sealcott "W" penetrates each fiber of both jackets, seals them from mildew and moisture. Energy packs compactly, too. Jackets have Dacron* filler cords which reduce bulk by ⅓, weight by 20%. *Reg. Trademark Du Pont Co.

Write Dept. 91.

COILS IN LESS SPACE



Acme Hamilton

MANUFACTURING CORPORATION, TRENTON 3, N. J.

Divisions: Acme Rubber Mfg. Co. • Hamilton Rubber Mfg. Corp.

ATLANTA · CHICAGO · DETROIT · HOUSTON · INDIANAPOLIS · LOS ANGELES · MILWAUKEE · NEW YORK · PITTSBURGH · SALT LAKE CITY · SAN FRANCISCO · SEATTLE

THESE TWO 146-FOOT AERIAL LADDERS permit high-level rescue and fire-fighting work... double in brass as extra-high water towers because ladder pipes can be attached to top fly. Automatic self-leveling device keeps ladder from side lean when truck is parked in locations ranging up to 12° from horizontal. They are flanked by two 100-footers.

Chicago reache

A NEW HIGH in

LATEST ADDITION TO CHICAGO FIRE DEPARTMENT, this conventional-cab Mack-Magirus aerial provides all-weather protection. Its compact chassis occupies considerably less floor or fire space compared with tiller-type ladder truck . . . is easily maneuverable in narrow city streets. Mack 707C Thermodyne power provides the performance to cope with Chicago's heavy traffic.

modern fire protection

The City of Chicago Fire Department, headed by Commissioner Robert J. Quinn, reaches new heights in its modernization program with the addition of four new Mack-Magirus aerials, two with ladders stretching 146 feet . . . two of 100 feet each. Their length, however, is only half the story.

The Magirus ladders are mounted on single, 4-wheel Mack chassis which require much less working and station house space than conventional ladder trucks of comparable capacity.

Furthermore, ladder pipes can be attached to the top fly ladder to convert the aerial to an extra-tall, extra-effective water tower. Fly ladders also feature built-in safety features that prevent overstressing.

These new Mack-Magirus aerials are but one more proof that Mack designs and builds the apparatus that meets the demands of your toughest fire-fighting assignment—cab-forward or conventional . . . choice of engines headed by the famed Mack Thermodyne® 707C . . . standard or automatic transmissions . . . air or hydraulic brakes . . . single rear axle or rear 4-wheel-drive Mack Balanced Bogie with Power Divider which automatically transmits power to the axle with the most traction . . . and gear ratios and special equipment you need.

Ask your Mack representative to show you how Mack can help your department—large or small—have the custom-made protection of fire apparatus that has earned its reputation as the finest built. Mack Fire Apparatus, Allentown, Pennsylvania. Mack Trucks of Canada, Ltd., Toronto, Ontario.

7705

MACK
FIRST NAME FOR
FIRE APPARATUS

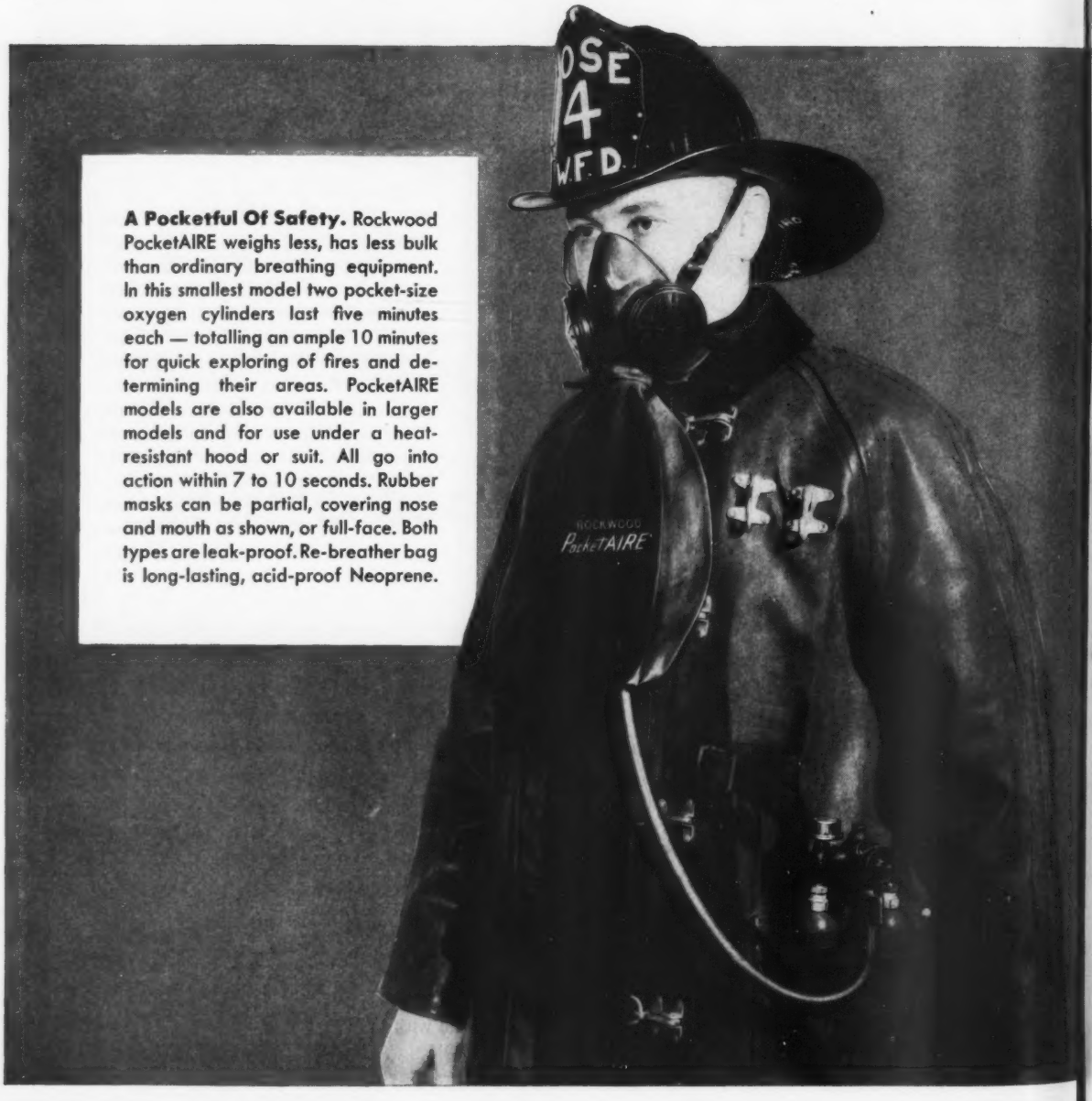
MPLETE LINE OF PUMPERS—500 to 1250 GPM...SQUAD AND HOSE WAGONS...AERIALS 65′ to 146′...COMBINATION LADDER TRUCKS

Positive Protection Against

...with the lightest, most compact equipment

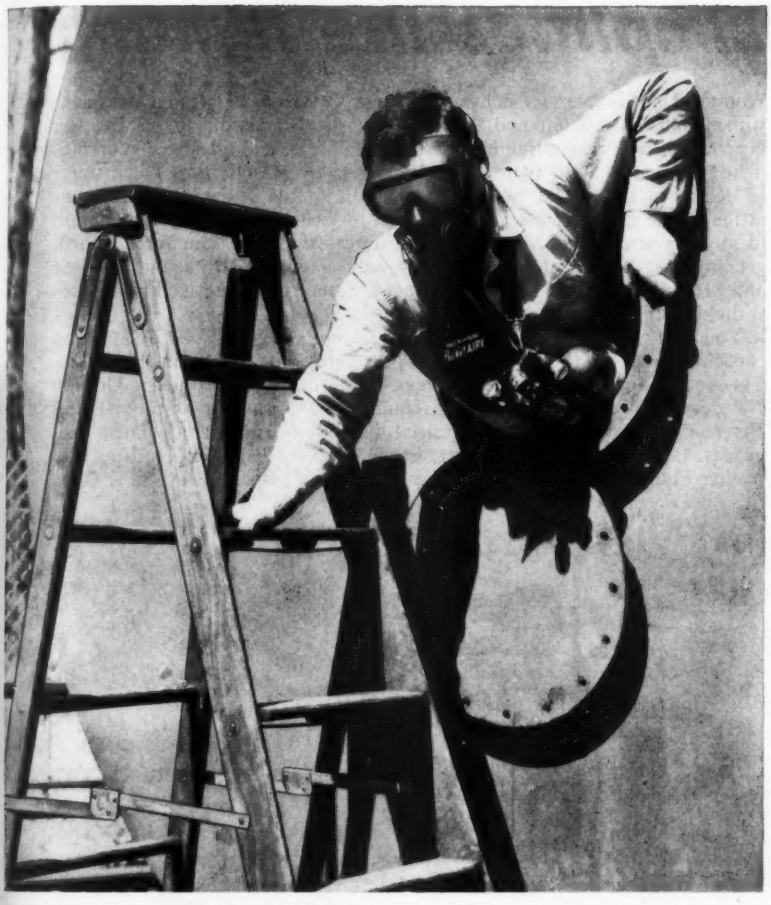
Rockwood PocketAIRE® Safeguards Maintenance Men, Fire Fighters, Emergency Victims

Sturdy · Simple · Safe



A Pocketful Of Safety. Rockwood PocketAIRE weighs less, has less bulk than ordinary breathing equipment. In this smallest model two pocket-size oxygen cylinders last five minutes each — totalling an ample 10 minutes for quick exploring of fires and determining their areas. PocketAIRE models are also available in larger models and for use under a heat-resistant hood or suit. All go into action within 7 to 10 seconds. Rubber masks can be partial, covering nose and mouth as shown, or full-face. Both types are leak-proof. Re-breather bag is long-lasting, acid-proof Neoprene.

st Breathing Hazards



More Room In The Tight Spots. With PocketAIRE, the lightest, most compact breathing equipment available, this plant safety man gets in and out of a small opening in a tank without hindrance or discomfort. His two PocketAIRE oxygen cylinders are a 15-minute working cylinder and a 5-minute "escape" cylinder. The use of pure oxygen and his full-face leak-proof mask are further aids in his complete PocketAIRE protection.

Every year hundreds of casualties are due to smoke, fumes, toxic gases and other breathing hazards. The safest, most economical way of shielding your own fire department from these casualties is with lightweight, compact, self-contained PocketAIRE equipment.

This way you eliminate the heavy weight and cumbersome bulk that slow down a fire fighter and can even get him dangerously caught in a tight spot. Also, by using pure oxygen instead of compressed air PocketAIRE supplies the most concentrated, most effective element to safeguard human breathing — and PocketAIRE tanks are refillable for only pennies . . . anywhere!

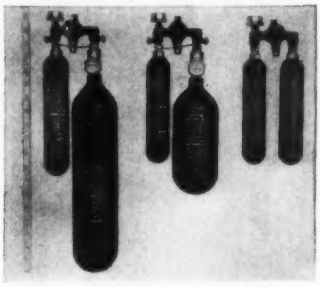
PocketAIRE advantages mean complete protection against all breathing hazards, at lowest cost. They have been proved by plenty of field service with municipal and industrial fire departments, safety crews and emergency workers.

Find out more about what these benefits can mean to your own organization. Mail the coupon for details.

ROCKWOOD SPRINKLER COMPANY

A Division of The Gamewell Company • Subsidiary of E. W. Bliss Company
Distributors in all principal cities

For Saving Life When Seconds Count. The PocketAIRE Medical Unit is designed to go into immediate action in emergencies. Equipment includes two PocketAIRE oxygen cylinders, variable flow regulator and disposable masks. It is available to hospitals, nursing homes, industrial infirmaries, police, ambulance and other services concerned with rescue work.



Compact, Lightweight, In All Sizes. On all PocketAIRE models one 5-minute cylinder is the standard "escape" feature. Models 1520, 1510 and 1500 are shown. Working cylinders are for *full* 25 minutes, *full* 15 minutes and *full* 5 minutes, and total weights are 10 lbs., 8 lbs., and 6 lbs., respectively. It costs only pennies to refill any model.

BLISS ROCKWOOD

ROCKWOOD SPRINKLER COMPANY
2006 Harlow Street
Worcester 5, Mass.

Please send me information on Rockwood PocketAIRE equipment.

Name.....

Title.....

Company.....

City.....

Zone....*State*.....

New WOOSTER UNI-FLO NOZZLE *simplifies fire fighting*

Wooster Uni-Flo Nozzles deliver the same GPM on all settings—straight stream and 15, 30, 60 and 90° fog patterns. Standardizing on Uni-Flo Nozzles makes firemen-training easier . . . simplifies and advances your fire-fighting technique. The man at the pumper knows exactly how much water to deliver at the nozzle, no matter what the nozzle setting. And the man at the nozzle can meet every fire situation by switching from straight stream to any fog setting, knowing exactly what pattern and stream force he will get. Wooster Uni-Flo Nozzles are ruggedly constructed to minimize wear and breakdown. Should service be needed, parts can be replaced in minutes without special tools.

You can select Uni-Flo Nozzles for hose in sizes from ¾″ to 2½″ and capacities from 18 to 250 GPM. The same sizes are also available as Uni-Flo Nozzle Tips for convenient "break-apart" use (as illustrated). Uni-Flo Nozzles and other Wooster brass fire equipment are available from Fyr-Fyter, Pyrene-C-O-Two and Buffalo industrial distributors and fire equipment specialists. Look for their local listings in your Yellow Pages under "Fire Protection Equipment." Or write to The Fyr-Fyter Company, Dayton 1, Ohio.

Chromed hard baffle plate and perforated edge produce dense, uniform fog patterns.

Non-slip rubber grip extends over edge to protect against impact.

Five positive, click-stop stream positions . . . entirely enclosed, can't freeze.

Smooth, easy turning at all pressures.

Rugged, rigid stream setting indicator.

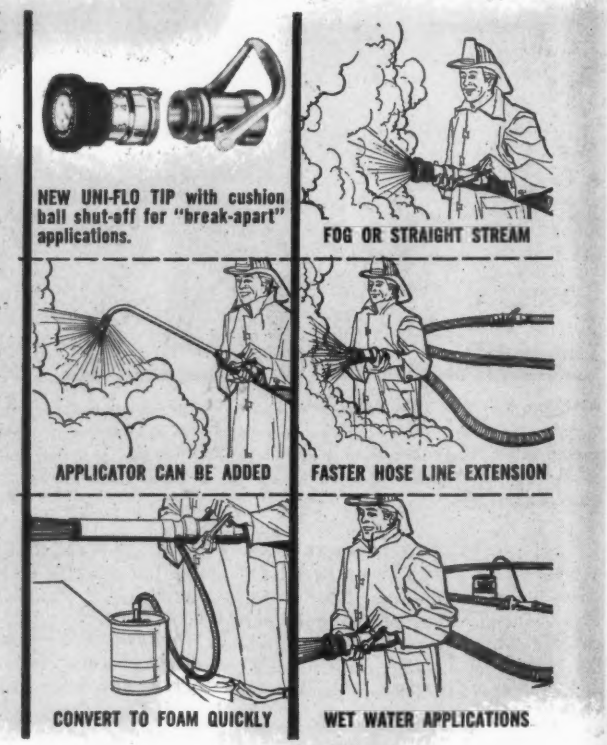
Cushion-ball shut-off control . . . easy action under all pressures.

Full diameter, non-interrupted waterway minimizes friction loss.

Double-stop provides positive valve alignment, open or closed.

Design minimizes clogging . . . clogging is easily freed.

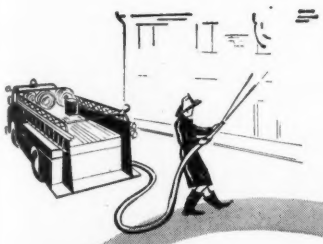
New wide handle for gloved-hand operation.


NEW UNI-FLO TIP with cushion ball shut-off for "break-apart" applications.
FOG OR STRAIGHT STREAM
APPLICATOR CAN BE ADDED
FASTER HOSE LINE EXTENSION
CONVERT TO FOAM QUICKLY
WET WATER APPLICATIONS

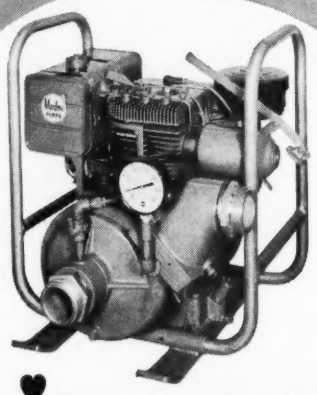
Fyr-Fyter

WOOSTER BRASS
products of THE FYR-FYTER COMPANY

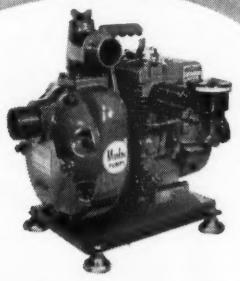
Branches: Atlanta, Baltimore, Boston, Chicago, Dallas, Dayton, Detroit, Los Angeles, New York, Newark, Philadelphia, Pittsburgh, Portland, Rochester, San Francisco, Toronto (Ontario). Representatives and Distributors in all principal cities.



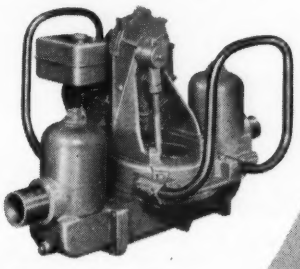
*The **HEART** of any Fire Fighting Service is in the **pump!***



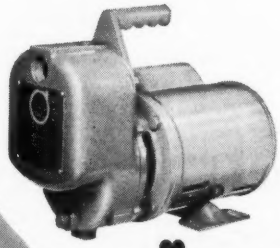
♥ This powerful, portable fire pump, Model 2½C15S, is lightweight and compact—easily placed in small compartments or spaces on any jeep or pickup. It provides over 100 pounds pressure for low pressure fog or foam operation. A dependable, four-cycle engine assures quick, easy starting, unattended operation for long periods.



♥ Versatile, fast-priming 1½" utility pump. All-aluminum construction makes the 1½AA1 Model light in weight and easy to carry—weighs only 49¾ lbs. It can be used for general wash down, pumping out flooded cellar areas, light duty booster service, and for filling auxiliary tanks and tank trucks.



♥ Model 302B "Mud-Hog" is a fast-priming diaphragm pump that weighs only 126 pounds. Fitted with 3" suction and discharge ports, this pump is designed to handle "pump outs" of debris, mud and silt resulting from floods.



♥ A portable, self-priming pump, the GEM is available in ¾", 1", and 1½" sizes with capacities up to 70 gallons per minute. It is suitable for cellar pumping and fills minimum fire protection requirements when used with garden hose.

MARLOW *makes 4 Fire Fighting Units*

Lightweight and easy to handle, Marlow pumps and generators provide dependable fire protection for municipalities, industrial plants and farms. Especially designed for the job, these units are indispensable to both large and small Fire Departments. This highly portable equipment can be placed in a car or jeep and quickly dispatched in an emergency or it can be carried into rough areas inaccessible to pumpers and trucks.

Write today for complete details on Marlow equipment for fire fighting service and for the name of your Marlow dealer.

9-270

Marlow PUMPS ®

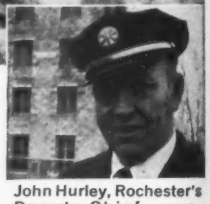
MARLOW PUMPS

DIVISION OF BELL & GOSSETT COMPANY

MIDLAND PARK, NEW JERSEY

Morton Grove, Illinois • Longview, Texas

New all-"Dacron" Porter Bonded Fire Hose takes this kind of hose-killing abuse in stride. On test for two years by the Rochester, New York Fire Department, Porter Hose still does not show signs of wear.



John Hurley, Rochester's Deputy Chief, says, "Porter hose cuts our hose inventory in half... saves up to an hour 'out-of-service' time."

New All-"Dacron" *Porter*® hose loves work like this ...shows no wear after two years of use!

This new all-"Dacron" Porter Bonded Double-jacket Hose is making friends with fire fighters and fire departments all over the country. No other fire hose can match Porter hose on all these counts:

Eliminates drying—Its bonded double-jacket of "Dacron" defies moisture . . . can be repacked wet without fear of mildew or rot . . . saves depot trips for dry hose . . . cuts hose inventory in half.

Resists tough—**wear** All-"Dacron" Porter hose lasts many times longer than ordinary double jacket hose under the most severe usage. It even takes the rugged abuse of abrasive ice and corrosive chemicals.

Lighter, more compact—New all-"Dacron" Porter Hose takes 30% less space, so many more sections can be packed into a truck.

It's no wonder so many departments are switching to this new all-"Dacron" Porter Bonded Double-jacket Hose . . . no wonder, when only half as much hose does the job better and stays on the job longer. Get all the facts on this new and improved fire hose.

See your Thermoid Division distributor or write *Thermoid Division, H. K. Porter Company, Inc., 200 Whitehead Road, Trenton 6, New Jersey.*

THERMOID DIVISION PORTER **H. K. PORTER COMPANY, INC.**

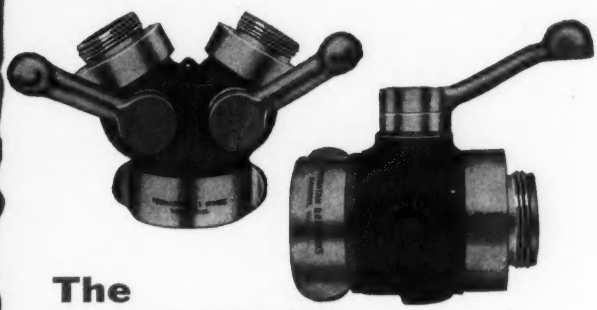
PORTER SERVES INDUSTRY with steel, rubber and friction products, asbestos textiles, high voltage electrical equipment, electrical wire and cable, wiring systems, motors, fans, blowers, specialty alloys, paints, refractories, tools, forgings and pipe fittings, roll formings and stampings, wire rope and strand.

POWHATAN

DURA-FOG NOZZLE

If you haven't tried it— try it NOW!

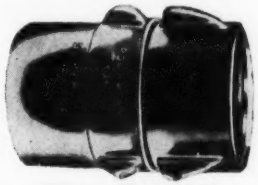
Gives finer dispersion with less water–fights fire faster. Every nozzle sold gets a 100% performance test. Greater reach with denser fog curtain, foolproof, maintenance free. Try it at our expense.



The "BALL TYPE" VALVE & SIAMESE

Quarter turn against any pressure gives you full stream or complete shut-off. A real heavy duty product for tough fire service. Size: Siamese — 2½" x 1½" x 1½", Valve—1½" and 2½". Red body, polished bronze or chromium trim.

"SUPER-FORGE"



Drop Forged

BRASS COUPLING

The toughest, tightest, lightest coupling—with three "Sensible Lug" couplings on both male and female. Sizes 1½" and 2½".

POWHATAN

BRASS & IRON WORKS

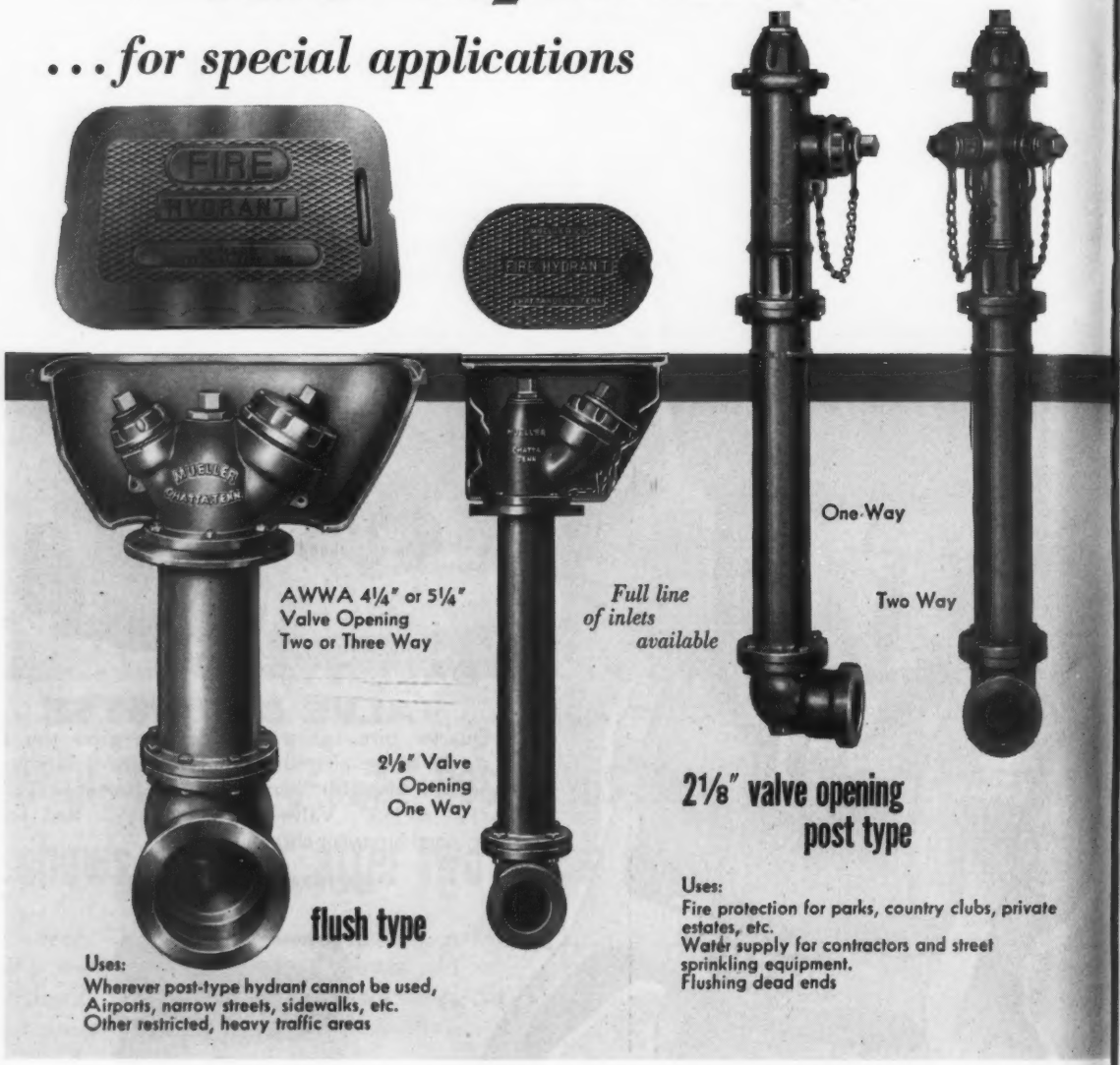
RANSON, WEST VIRGINIA

In The Same Location Since 1892

MUELLER®

fire hydrants

...*for special applications*



These fire hydrants for special applications are just a part of the full line of fire hydrants produced for municipal, industrial and private fire protection systems by Mueller Co.

The design and quality of these special hydrants is exactly the same as Mueller AWWA Standard Fire Hydrants for municipal use. Compression type main valves, automatic drain valve mechanisms and "O" ring stem seals are just a few of the features. The only difference in the 2⅛" valve opening hydrants is size.

The use of these quality features in *all* Mueller fire hydrants is typical of the great attention to detail in research, design and engineering that becomes a part of every Mueller product made for the water industry.

Write for complete information.

MUELLER CO. **DECATUR, ILL.**

Factories at: Decatur, Chattanooga, Los Angeles;
In Canada: Mueller, Limited, Sarnia, Ontario

WEIGH THE FACTS— AND YOU'LL CHOOSE BOSTON HOSE!

COMPETITIVE FIRE HOSE
Less material — less wear

COMPARE COMPETITIVE HOSES. YOU'LL SEE THAT MORE OF THE FINEST YARNS MAKES BOSTON FIRE HOSE WEAR FAR LONGER — yet it handles and stores easily!

More and more Fire Chiefs are coming to realize: the craze for lightweight hose can go to extremes. You can sacrifice wear for weight. Take out material, and you lose durability.

So . . . *heft* a length of Boston Fire Hose and a length of competitive hose! You'll agree Boston Hose IS heavier. Because the extra weight is in the warp yarns. You get more for your money.

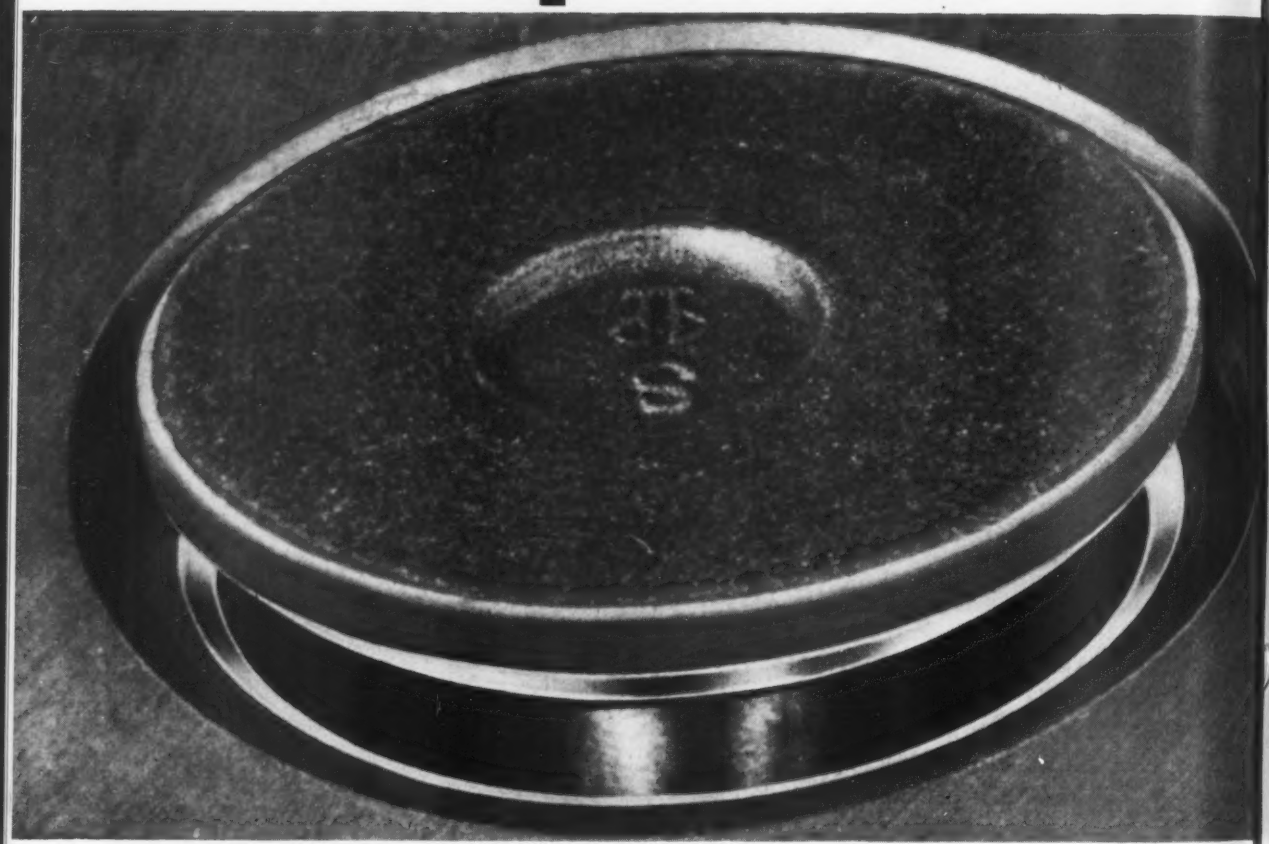
BOSTON FIRE HOSE
More material — far longer wear!

See your BOSTON agent or write to BOSTON for free descriptive literature

BOSTON FIRE HOSE

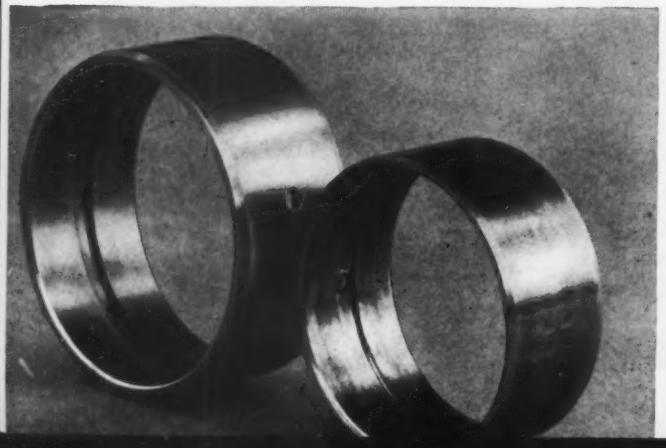
BOSTON WOVEN HOSE & RUBBER COMPANY
DIV. OF AMERICAN BILTRITE RUBBER CO. INC.
BOSTON 3, MASS.
ORIGINATORS OF CIRCULAR WOVEN FIRE HOSE

An amazing metal
up to 3 times



"Silver circles" as hard as Swedish steel make your Onan Plant last longer.

Big, brawny bearings—twice the size of many competitors' bearings—give Onan Plants a longer life between overhauls. Onan is built *up* to performance, not down to a price.



To give you greater assurance of top performance, inspectors from an independent laboratory periodically visit our factories to test units and production testing methods.

gives Onan engines the valve life!

Onan exhaust valves and seats are coated with Stellite, a tough alloy, to greatly reduce wear and burning

Stellite—one of the toughest alloys known—gives the exhaust valves and seats in an Onan engine up to 300% longer life. Scorching punishment—Stellite can take it.

Onan's attention to important details, like valves and valve seats, is what makes Onan Plants so dependable, so long-lasting, so economical.

And, only Onan gives you Performance Certified. Every Onan Electric Plant is run for hours under full load before it leaves our factory to assure ourselves, and you, of getting all the performance and power you paid for. To give you even more assurance, inspectors from an independent laboratory come in periodically to double check our tests and testing methods. Whether you need primary or stand-by generating power, from 500 watts to 230,000 watts, see your Onan distributor. You'll find his name in the telephone classified section in every major city, or write direct.

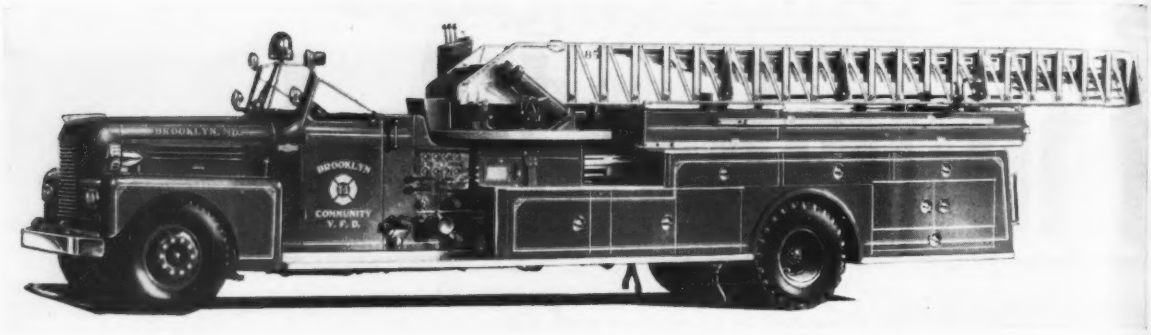
ONLY ONAN GIVES YOU THIS GUARANTEE

PERFORMANCE CERTIFIED
We guarantee that when properly installed and operated this Onan electric plant will deliver the full power and the voltage and frequency regulation promised by its nameplate and published specifications. This plant has undergone several hours of running-in and testing under realistic load conditions, in accordance with procedures certified by an independent testing laboratory.
D. W. ONAN & SONS INC.
Minneapolis 14, Minnesota
Onan

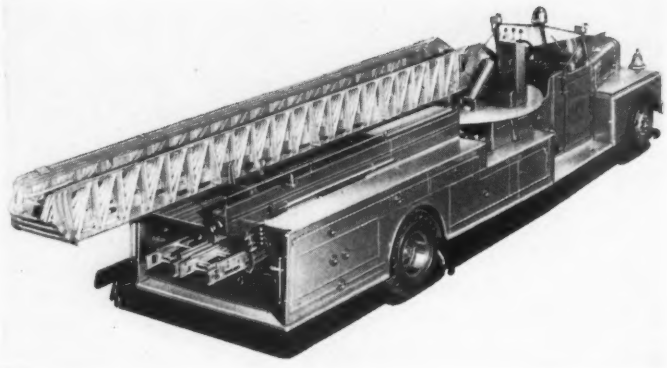
Onan®

World's Leading Builder of Electric Power Plants

D. W. ONAN & SONS INC., 2582 UNIVERSITY AVE. S.E., MINNEAPOLIS 14, MINN.



FUNCTIONAL
DEPENDABLE
EFFICIENT



The Pirsch Quintuple Aerial Ladder Truck is a highly functional general purpose unit; pioneered by Pirsch and constantly improved during the many years since Pirsch produced the first of this type, the Pirsch Quintuple is a true product of experience.

Pirsch offers in this unit the Pirsch-built full-hydraulic aerial hoist, the Pirsch-built aluminum alloy aerial ladder (65′ to 100′), Pirsch-built aluminum alloy or wood ground ladders, engines of 554 to 1090 cubic inches and pumps of 500 to 1500 GPM single or multi-stage centrifugal type. These and other important features including Pirsch custom-built booster tanks, hose and equipment compartments provide an outstanding Quintuple Aerial Ladder Truck of highest efficiency and dependability.

Pirsch Built America's first all-powered aerial ladder truck and America's first 100′ aerial ladder

Peter Pirsch & Sons Co.
KENOSHA, WISCONSIN

ON THE DAY FIRE STRIKES...

IT'S TOO LATE to check foam liquid for fire-extinguishing performance

IT'S TOO LATE to see if you have enough foam liquid on hand

IT'S TOO LATE to check operation of foam-makers and other foam devices

IT'S TOO LATE to find out whether or not your foam towers work dependably—in a hurry!

but...

it's never too early to make SURE of quality and performance in fire-fighting materials! Insist on proof. That's what you get when you buy from

NATIONAL FOAM SYSTEM, INC. West Chester, Pa.

INTERNATIONAL® FIRE TRUCK

Community trusted and approved

Modern, up-to-date communities can point with pride to their INTERNATIONAL Fire Truck Chassis as "trustworthy citizens."

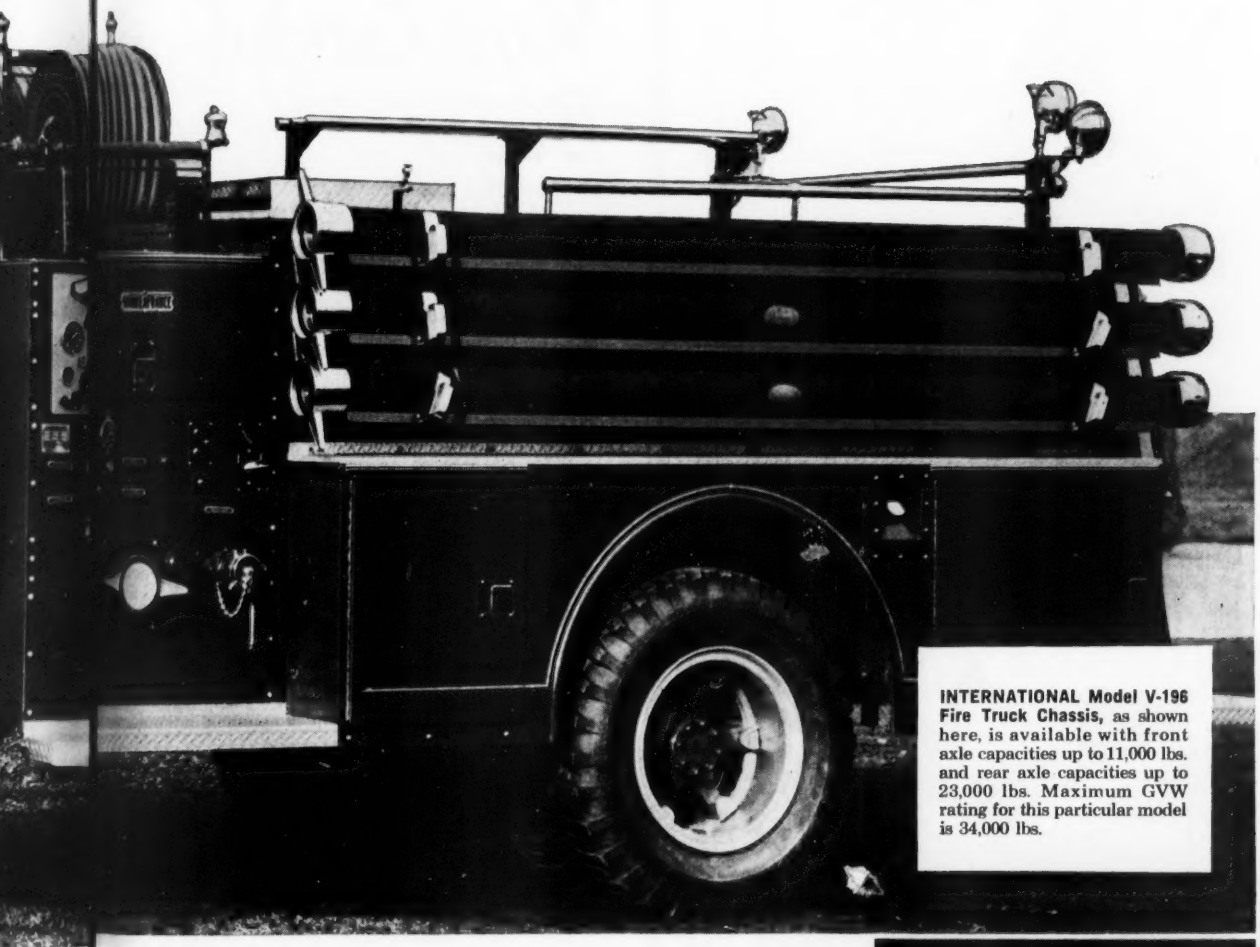
Concern over dependability and safety is eliminated with V-8 powered models that give you and your community the doubly sure action of dual-ignition engines. You can fire both sets of plugs simultaneously, or either set individually, by turning a switch. These rugged, true-truck INTERNATIONAL V-8's deliver dependable pumping power with up to 257 hp., capacities up to 1,000 gpm.

INTERNATIONAL V-8, or optional six-cylinder gasoline or LPG-equipped engines are available in a range of conventional, compact-design or cab-over-engine chassis to meet driver preferences and equipment requirements.

Complete, fast servicing is provided by thousands of INTERNATIONAL Truck service locations . . . there's one either in or close to your community.

See your INTERNATIONAL Dealer or Branch soon for complete details. Here's how you can get components and know-how to help you custom-fit your fire truck chassis.

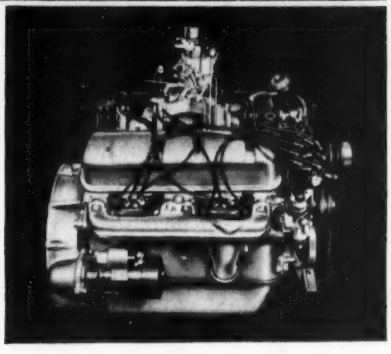
CHASSIS with dual ignition



INTERNATIONAL Model V-196 Fire Truck Chassis, as shown here, is available with front axle capacities up to 11,000 lbs. and rear axle capacities up to 23,000 lbs. Maximum GVW rating for this particular model is 34,000 lbs.

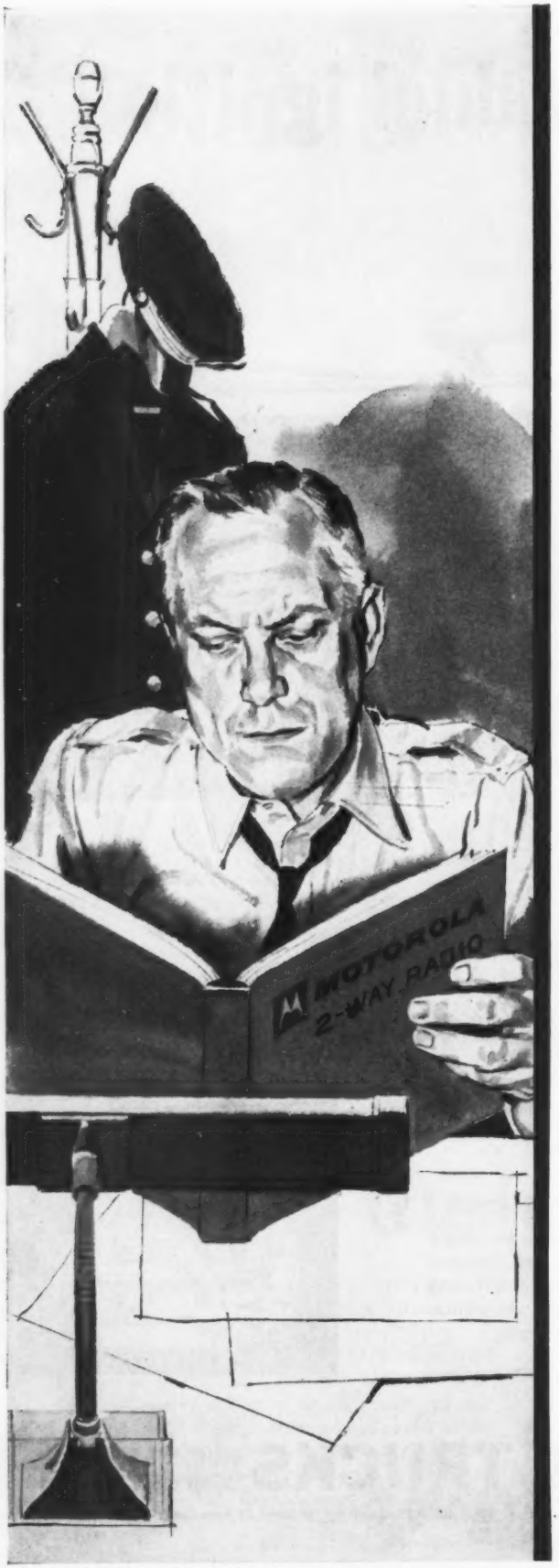
Dual Ignition Makes INTERNATIONAL V-8 Power Even Better!

461 and 549 cu. in. displacement V-8's are true low-stress engines and proved to operate at maximum rpm. By-pass cooling and alternating valve system adds long compression life. Slipper-type heavy dome piston and combustion chamber create high turbulence and even burning.



INTERNATIONAL® TRUCKS WORLD'S MOST COMPLETE LINE

International Harvester Company, Chicago • Motor Trucks • Crawler Tractors • Construction Equipment • McCormick® Farm Equipment and Farmall® Tractors



The Town's Most Careful Buyer

is working late again tonight!

As a purchaser of equipment on which *lives* may depend, you naturally spend a lot of time *comparing* before you specify. So, when it comes to equipment as intricate as 2-way radio, you've got a real job on your hands.

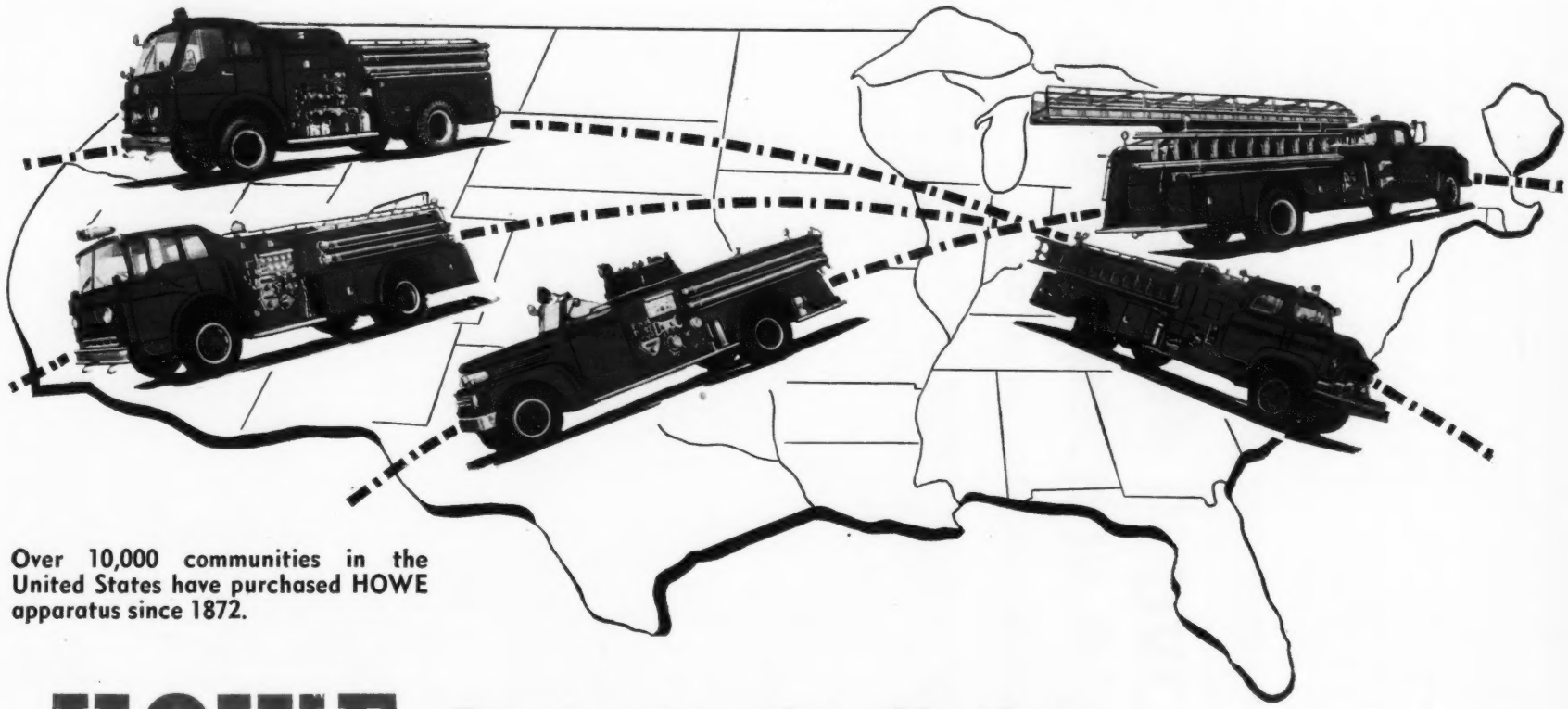
That's why Motorola has a Factory Sales Engineer nearby. He's there to help you plan a system that's custom-tailored to your needs. He can do this job best—because he can plan from the largest selection of equipment available anywhere. And he's backed by an army of electronic specialists—from engineering through production to factory supervised service stations.

What about performance on the job? That's your most important consideration. And that's where Motorola has built its reputation—*on the job*. When the chips are down—when men *must* rely on their equipment—Motorola has proved itself so often it's the choice of 3 out of 4 radio-equipped police and fire departments.

Do you have all the facts on the new Motorola radio units ready now for your new installation, or to bring your present system right up-to-the-minute in efficiency and economy. Call or write for the latest information today.

MOTOROLA
2-WAY FIRE RADIO

Motorola Communications & Electronics, Inc.
4501 Augusta Blvd., Chicago 51, Ill.
A Subsidiary of Motorola, Inc.



Over 10,000 communities in the United States have purchased HOWE apparatus since 1872.

HOWE Protects the Nation

The impressive record established during four generations proves that HOWE builds fire equipment that **really does a job** in protecting the property and people of our great nation—and HOWE builds to **your** specifications, to suit the special needs of **your** community. Let HOWE equipment protect **you.**

HOWE

"dependable fire apparatus since 1872"

HOWE FIRE APPARATUS CO.

Dept. FE-660 • 1400 West 22nd Street • Anderson, Indiana, U.S.A.

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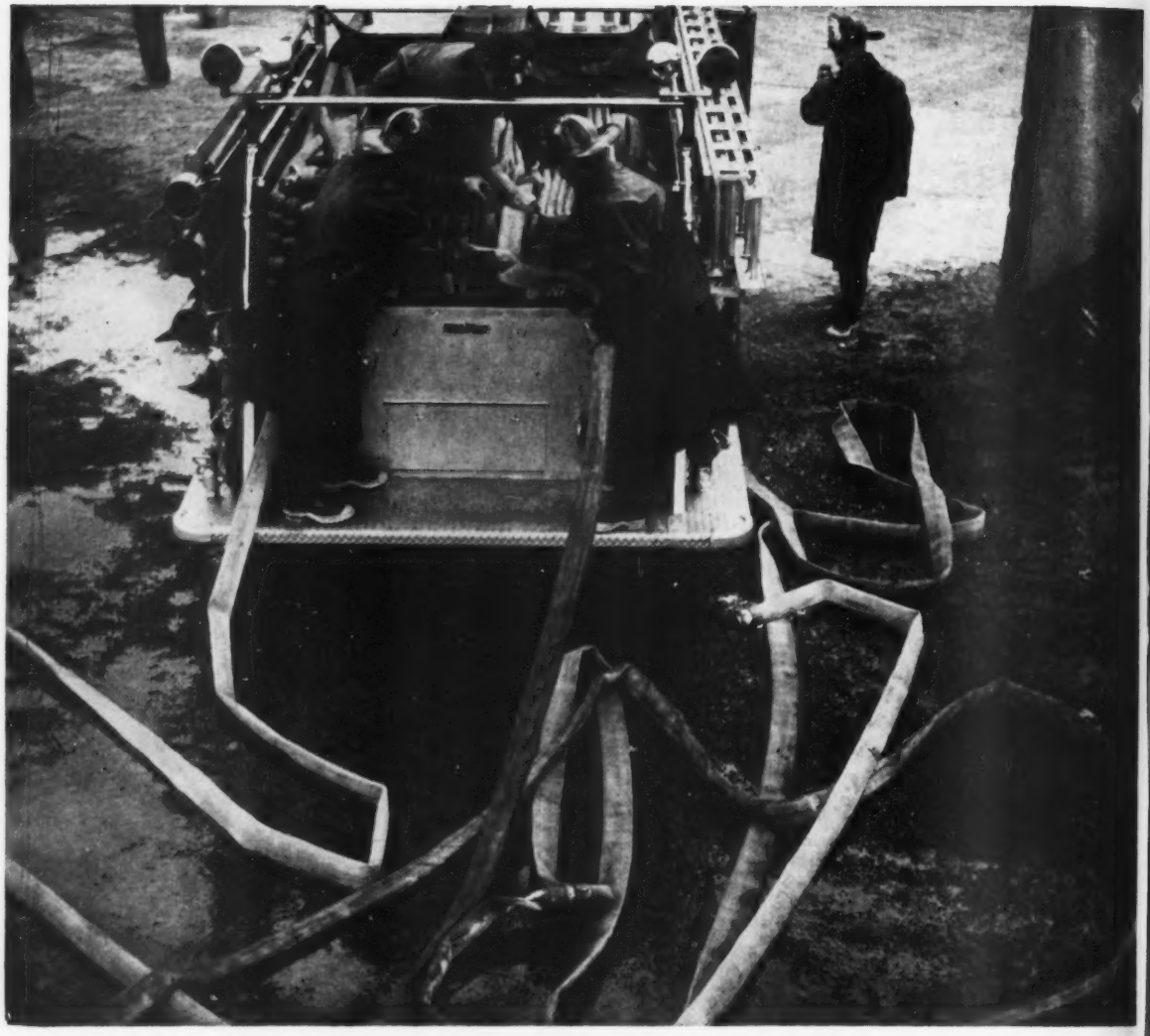


Fire hose you can repack wet—

Gets you back in action faster because of DACRON®

POLYESTER FIBER

The next fire won't wait—not for you to get ready, not for your hose to dry. Now you can get back into action faster, repack hose immediately, repack it *wet*—when its jacket is 100% Du Pont "Dacron"* polyester fiber.

The reason is simple. New hose jacketed 100% with "Dacron" won't be damaged or weakened by rot or mildew—no matter how many times you repack it without drying. It's ready to use again at once after each run.

Hose of "Dacron" is also more economical. It's highly resistant to abrasion, to damage from chemicals and oils . . . can give you many more years of dependable service. It handles easier, too . . . can save you precious seconds, critical minutes of fire-fighting time. Years of testing show the ability of "Dacron" fiber to meet these fire-hose requirements.

For greater dependability, for important savings in time and labor—be sure your hose is jacketed 100% with Du Pont "Dacron". See your supplier . . . or write for sources and free booklet on "The Hose That Needs No Drying". E. I. du Pont de Nemours & Co. (Inc.), Textile Fibers Department, Room 31E, Centre Road Building, Wilmington 98, Delaware.

*"*Dacron*" *is Du Pont's registered trademark for its polyester fiber.*

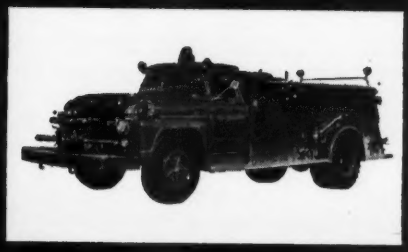
Enjoy THE DU PONT SHOW WITH JUNE ALLYSON, Monday nights, CBS-TV

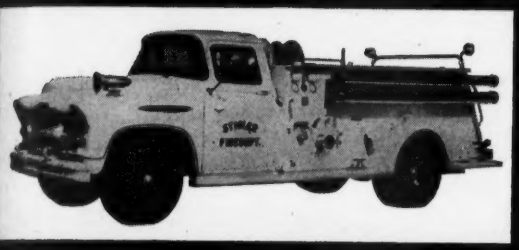
DU PONT

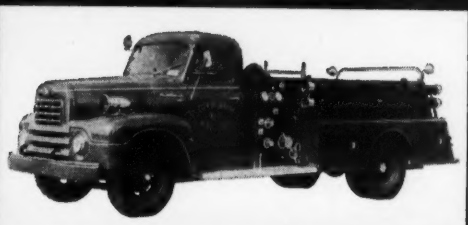
REG. U.S. PAT. OFF.

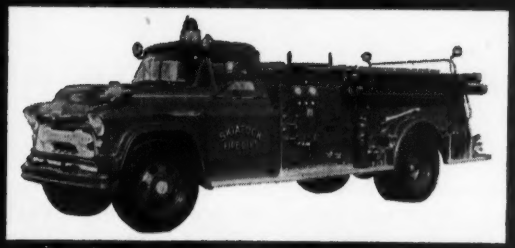
BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

BOARDMAN BUILDS BETTER PUMPERS for Less!









THE BEST PUMPER your community can possibly have is the pumper that fits its needs *exactly*. And Boardman pumpers are built to do just that, with the features and equipment you need. They are mounted on the standard chassis of your choice, for quick and inexpensive local service and maintenance! Boardman pumpers are built to your specifications — but for less than a "custom-built" price. WRITE AT ONCE for your copy of the new brochure, "BOARDMAN FIRE FIGHTERS."

BOARDMAN

THE BOARDMAN CO.

OKLAHOMA CITY

On the fireboat *"City of Portland"*, a Rockwood FOAM system with variable automatic proportioning of the fire smothering foam liquid includes Rockwood turret nozzle convertors, hose nozzles, applicators and extensions. Pumping power supplies a continuous output of 7,000 gpm. Smaller photo shows refueling on this boat with Double Strength FOAM liquid through a trough-like funnel into a 250 gallon FOAM storage tank.

Rockwood helps protect Portland

Fireboat's FOAM system provides 3600 cubic feet of fire-smothering blanket — in 3 minutes!

For up-to-the-minute protection of the harbor area of Maine's metropolis, the fireboat "*City of Portland*" carries a Rockwood FOAM system engineered for fast, effective fire fighting.

This Rockwood balanced pressure proportioning system incorporates all latest mechanical developments, including automatic control of FOAM liquid injection, variable percentage selection, individual selection of FOAM or water discharge and use of nozzles that can discharge FOAM, FogFOAM, WaterFOG or straight water streams.

The FOAM metering valves can be set for Double Strength (3%) or Regular Strength FOAM Liquid (6%). System will maintain the desired percentage automatically, regardless of pressure or flow variations. FOAM tank can be quickly refilled for maximum discharge of 82,000 gallons of expanded FOAM per tankful.

Protective advantages like these are typical of Rockwood systems and products for fire fighting vessels, vehicles or industrial hazards. Tested and Listed By Underwriters' Laboratories, Inc. For details, write to ROCKWOOD SPRINKLER DIVISION, 440 Harlow Street, Worcester 5, Massachusetts.

ROCKWOOD SPRINKLER DIVISION

of The Gamewell Company • Subsidiary of E. W. Bliss Company

Engineers Water...to Cut Fire Losses

Distributors in all principal cities

DUO Safety FIRE LADDERS

Now in FOUR GREAT SERIES

With DUO-SAFETY Exclusive Tongue and Groove Construction

o Hooks or Guides Injure Hands! lack-knifing!

Now, there's a Duo-Safety Ladder for every budget...for every use. The new Series 1200—an intermediate ladder—fills out the line to offer you a bigger choice of better ladders. Check the specifications below...you'll find the ladder for your requirements. Write for more information and prices.

Choose the Series to fit your needs!

SERIES 1000	For Pumper Use	24′ to 30′	[2 3/4″ CHANNEL RAIL
SERIES 900	For Pumper and Service Trucks	24′ to 40′	[3 1/4″ CHANNEL RAIL
SERIES 1200	For Service Trucks	35′ to 55′	[3 3/4″ CHANNEL RAIL
SERIES 500	For Service Trucks	10′ to 60′	TUBULAR RAIL

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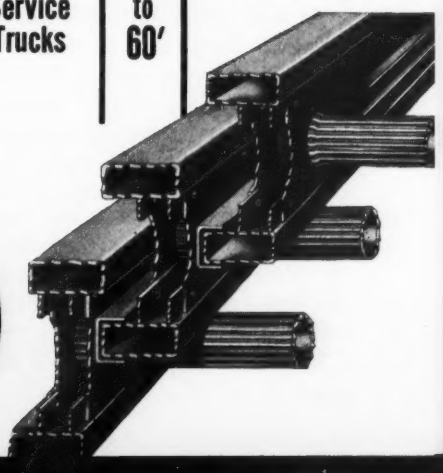

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Fire Alarm box outside the Chester Municipal Building is inspected by Mr. James Gorbey, Director of Accounts and Finances, and Mr. Garry Boden, (right) Director of Public Safety.

Chester, Pa. proves it pays to update fire alarm protection

The $112,000 Gamewell Fire Alarm System modernization completed about a year ago in Chester, Pa., has consistently paid off in increased efficiency and economy.

It has significantly speeded response to alarms and eliminated the cost of faulty alarms due to mechanical and electrical failures. In addition, there have been far fewer service and maintenance calls. Mr. Garry Boden, Chester's Director of Public Safety sums it up this way: "Considering similar equipment available, it is my opinion that Gamewell equipment is the best that money can buy."

The new system is Type B and fully automatic. Its 169 strategically located boxes are on eight circuits, all connected through a central control point in police headquarters. Police and fire headquarters and the city's five fire stations have alarm gongs and tape recorders to indicate box locations. Diaphone horns alert volunteers.

Advance design features assure positive operation. For example, even if outside wiring is put out of action as a result of a hurricane, etc., "pull" boxes will still transmit a coded signal to Fire Alarm headquarters. Mr. Boden feels that his city has one of the most modern fire alarm systems in the nation. Are you as certain of your community's fire protection? A Gamewell Survey will give you all the facts without any obligation to you! Write THE GAMEWELL COMPANY, 1240 Chestnut St., Newton Upper Falls 64, Mass.

Recent New Installations of Gamewell Fire Alarm Systems

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- Tulsa, Okla., Type "A"
- Yonkers, N. Y., Type "A" (*decentralized*)

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FIRST...WHEN SECONDS COUNT

FIRE
ENGINEERING
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The Fire Service and Civil Defense

Current tensions among the countries of this world have forced governing officials to reassess their over-all defensive systems in the cold light of reality. As international storm clouds gather, it is evident that we should examine our present civil defense structure and the function of the fire service in it. In the past, CD has proven a sore point in many areas due to personality conflicts on a more or less local level.

There has been a tendency on the part of some fire and CD officials to ignore their important responsibilities and instead, concentrate more on the question of who has the authority to issue orders in the event of an emergency. Fortunately this shortsighted attitude is limited, but it is of sufficient intensity to create a festering sore in critical areas at a time when complete understanding and cooperation is a necessity. Perhaps some of the difficulty may be traced to a lack of enthusiasm for civil defense preparations, but with the collapse of the recent Summit Conference this is hardly the time for complacency.

President Eisenhower, speaking to the nation during the recent Conelrad test, repeated a statement he had originally made before the Senate in 1959 and said in part, "It would be unwise to neglect our civil defense mission, because our total defense is incomplete and meaningless without reliable and responsible home defense. Survival cannot be guaranteed merely with a capacity for reprisal.

"Equally important is our ability to recover. If, despite our efforts toward keeping peace, we should be faced with nuclear attack, a strong civil defense, supported by all Americans, offers the best program for the saving of lives." It is evident the fire service, as well as all citizens, should heed the words of the President.

The place of the fire service in the civil defense structure has been debated for many years. Regardless of what some individuals may think and say concerning its relative importance in the event of attack, the director of the Office of Civil and Defense Mobilization, the Honorable Leo A. Hoegh, speaking before the 1958 I.A.F.C. conference in Los Angeles, plainly stated his official view that fire chiefs are responsible for protecting lives and property during war-caused fires exactly as in peacetime.

He then implemented his belief that the fire service was of great importance in the over-all effort by inviting nationally recognized fire service authorities and heads of fire service organizations to form an advisory committee reporting directly to him on fire service matters. From the advice and counsel of this group has come the first national fire service plan which is designated Annex 21 to the National Plan for Civil Defense and Defense Mobilization.

Other countries have also recognized the need of the fire service and have taken steps to insure that it has an important voice in any plans for defense in the event of attack. For example, early in the year the Province of Ontario, Canada, reorganized its top-level civil defense and appointed Provincial Fire Marshal W. J. Scott as chairman of the policy-making board. This has placed the Ontario fire service in a strong position and at the same time, firmly fixed the responsibility it must bear.

All of the foregoing indicates the trend of progress in civil defense matters, with full account taken of the part each agency of government has to play in safeguarding the people. The emphasis has been placed on the continuation of government on every level in order that quick recovery may be accomplished without chaos following any catastrophe.

A complaint often expressed in fire circles is the apparent lack of unified objectives and direction on the part of CD officials. Acting upon a suggestion by the Fire Advisory Committee to overcome this problem and at the same time, further implement the National Fire Service Plan, OCDM has scheduled four seminars, or workshops, to be held soon in California, Iowa, Tennessee and Maryland. The objective will be to develop materials and methods to be used for a National Fire Defense Staff and Command Course scheduled for 1961.

Attending the seminars will be representative groups of fire chiefs in the general areas involved. The information gained at these sessions will then be incorporated in a CD operations guide for the fire service. There should be fewer complaints and greater cooperation once this has been accomplished. For the fire service itself will have determined how best to employ its resources in any future civil defense action.

Llow O'Brien

Fire Lieutenant Robert Bryan, Arlington, Va., Engine No. 2, is rescued from recent Congressional School blaze. Combination of acrid smoke and water spray apparently overtaxed canister of his mask

Let's test your

By JOHN B. DUNNE

GIVING TESTS has become the vogue in all walks of life throughout the country, with new tests appearing all the time. Before long, psychologists will be able to test our intelligence, personality, aptitudes and social attitudes from the cradle to the grave. Yielding to this trend, the following B.I.Q. test is suggested to determine your Breathing Intelligence Quotient.

Perhaps this test isn't as fancy as some prepared by psychologists and a passing grade won't be a guarantee that you will be eligible for admission to any school. Passing the B.I.Q. Test, however, may be your guarantee of living a lot longer and safer life—even to a ripe old age. Probably the most important organs of our body are concerned with breathing so the more we know about protecting these organs, the better are our chances for survival in the serious business of fire fighting.

Obviously in the limited space available, only a sample of the questions you should be able to answer correctly can be included, but these should be sufficient to prove that a high B.I.Q. may be the means of saving your life and even the lives of the men working with you.

Since fire fighting has become more and more complex, our knowledge about hazards to breathing must continue to increase. You will probably complain that unlike many tests, this one has few questions which can be answered "yes" or "no," or "true" or "false" or with the insertion of a word

Members of Engine 54, FDNY, don demand masks preparatory to entering subway as other New York fire fighters employ fog to protect exposure during Times Square escalator fire. Extremes of heat and smoke taxed men and equipment at this subterranean blaze

B.I.Q.

Los Angeles County Fire Department "Cat" operator wears mask for close-in work during brush fires. Air cylinders are carried on rear of vehicle

or two. Your complaint is valid, but if you have a high B.I.Q. you will know why such an answer to a given question is required.

Question 1. How much oxygen should there be in any atmosphere to properly support life?

Answer: Over 16 per cent. When we say over 16 per cent, we are speaking of this amount as a bare minimum. The air we ordinarily breathe contains approximately 20 per cent oxygen. When this amount is reduced, we usually notice it right away. We become nervous and apprehensive. We may start breathing more rapidly. There may be cold sweat on our brow and a feeling of increased circulatory activity. Our heart and pulse rates increase and in general, we feel agitated.

You can experience some of these feelings if you wish to experiment by breathing inside a bag or by holding your breath. Our whole organism reacts very quickly to lowered oxygen content in the air we breathe. It is well to remember that death occurs very rapidly due to oxygen starvation because of acute dilation of the heart. There is so substitute for an adequate oxygen supply.

Question 2. How much carbon monoxide can be present without being immediately dangerous to life?

Answer: Less than 100 parts per million. This answer is certainly open to controversy. The U. S. Navy for years required that the atmosphere in Naval planes not exceed five parts per million of this deadly gas. It is hard to give a really definitive answer because the effects of carbon monoxide are cumulative and the onset of symptoms is very insidious. Furthermore, tolerance of certain individuals is greater than that of others.

The action of this gas is to replace the oxygen in the hemoglobin of the blood. With small quantities present this takes place slowly, but when larger quantities are present in the atmosphere, the hemoglobin can be changed very rapidly and asphyxia will soon follow. We have observed an experimental rabbit in a .1 per cent atmosphere become asphyxiated in less than two minutes and show over 75 per cent carboxyhemoglobin in the blood. The reason for this is simple when we consider that the hemoglobin takes up carbon monoxide 250 times as rapidly as it does oxygen.

Since the detection of carbon monoxide can be made only with instruments, we cannot take chances on the amount which is present. If there is the slightest doubt, no one should enter the atmosphere without complete breathing protection. Ordinary automobile exhaust produces in excess of 14 per cent CO. When the engine has just started, this amount may be higher. That is why rescues in cases involving exhaust fumes should be made with oxygen or air masks.

Question 3. What are the two main types of masks and how do they differ?

Answer: Filter-type and self-contained. They differ in that filter-type masks merely filter out dust, fumes and smoke particles, while the self-contained apparatus provides a safe atmosphere for the wearer inside the mask. The filter mask does not provide oxygen and thus if there is a lowered content in the atmosphere, it may well be dangerous to depend on such a mask.

In the Rescue Manual T M 14-1 of the Office of Civil and Defense Mobilization there is this qualification concerning the use of filter-type masks: "This mask does not provide oxygen, and should never be worn when the oxygen content of the air is less than 16 per cent—the amount necessary to sustain life."

To this we should like to add: Never wear a filter-type mask when the atmosphere contains a higher per cent of any gas than that for which the canister was designed.

Now comes the bombardment of questions: How do you know about the atmosphere? How can you check the oxygen content? What are the limits of various gases for the canister? Without being facetious, our reply is, to be certain take a mobile chemical lab to every fire and the chemists can make tests and give you the exact content of the atmosphere and the percentages of gases present and how much oxygen is available.

"But," you may say, "this will take hours." This is true, but it is the only sure way we know to determine what you are dealing with in each fire. The more practical alternative is to equip all fire fighters with self-contained masks.

Self-contained masks fall into two types: Demand-type and self-generating. The wearer of either type can enter an atmosphere completely devoid of oxygen or one containing high concentrations of carbon monoxide or other toxic gases. Since he is wholly independent of the outside air he can perform his duties in the relative safety of the self-contained mask. He is not subject to the limitations placed upon the wearer of the filter-type mask. The best protection a fire department can provide for its men is self-contained oxygen or air masks and and adequate training program in their use.

Question 4. What mask would you wear or have your men wear in a basement fire?

Answer: A self-contained mask. Since most departments cannot afford

Omaha fire fighter is pulled from street cave-in site after probing pit in rescue attempt. Note use of demand mask

—Photo by John Savage

a mobile chemical lab and since the essence of good fire fighting is speed in application of the extinguishing agent, this is the only logical answer. Basement fires traditionally produce large amounts of CO and even worse they present the problem of oxygen deficiency. So, it's only playing the likely odds to assume that basement fires cannot be fought quickly and safely with filter-type masks.

There is a very logical reason why you may expect an oxygen deficiency in basement fires. These are often confined to small areas and there is poor ventilation. The fire smoulders for a long time before discovery and thus the available oxygen is depleted. As less and less oxygen is available, more and more carbon monoxide is produced; these fires present a double threat to the fire fighter. In order to enter a basement to put out a fire in safety, wear a self-contained mask and be sure!

Question 5. When would you be justified in wearing a demand-type mask under water?

Answer: Only under extreme emergency. The demand apparatus designed for fire fighting leaves a lot to be desired for underwater operation. In order for the user to feel comfortable using a demand unit under water, the inhalation and exhalation valves should be at the level of his mouth and nose. A slight variation up or down will cause either a rapid flow of gas into the mask, or will cause difficulty in inhalation. The average fire fighter is not accustomed to being under water with a mask and he may become frightened by these difficulties and get into serious trouble.

There are several good pieces of underwater equipment which can be used. If rescue or recovery from water is a responsibility of your department, get the right kind of mask to do the job. Leave the demand fire fighting oxygen or air mask for the purpose for which it was designed—fighting fires.

Question 6. What should you know about the air you use for air masks?

Answer: That it contains no contaminants. More and more fire departments are finding fault with the so-called "breathing air" which they are using in air mask bottles. This air may be purchased from compressed gas companies or may be provided from compressors operated by the department. The chief contaminants are petroleum vapors or traces of carbon monoxide. The petroleum vapors may cause nausea and in extreme cases, pneumonitis because of irritation of the lungs. Carbon monoxide, if present in sufficient quantities, may cause drowsiness, headache and other unpleasant manifestations.

In an earlier article the writer described the pains to which the New York Fire Department went to assure pure breathing air for the men using masks. A unique type of compressor was designed by Captain James Ferguson (since retired) which produces as near pure air as it is possible to produce.

Most departments cannot invest in such a piece of equipment but safeguards can be taken. If you buy compressed air in large cylinders, ask for a laboratory analysis periodically. If you compress your own gas, be sure the filters you are using are removing the contaminants. A chemical laboratory can analyze your air for you. If any of the men complain of nausea or irritation of the breathing passages after using air apparatus, most certainly have the air analyzed. If you are in doubt about your air supply, ask for expert advice. You can't be too safe. Oxygen presents none of these difficulties since it must be water pumped (no oil used in pump) in transferring and is made by reducing air to liquid oxygen. It must maintain a purity of 99.7 per cent in most cases.

Question 7. Under what circumstances will a filter mask give complete protection?

Answer: Where there is sufficient oxygen (over 16 per cent) and where the gas concentrations are not too high. You may justifiably say "That's a great answer!" It's about the only truthful answer which can be given.

Our suggestion if your department will not replace filter-type masks with self-contained units is to read and reread the U. S. Bureau of Mines approval for that mask, which sets forth clearly its limitations. For instance, the mask will protect for a certain period of time against no more than 2 per cent carbon monoxide. Find out how long. It will protect the wearer for a given length of time in certain concentrations of ammonia, chlorine, etc. Find out how long. All the men in the department should study and restudy these limitations. All chiefs and officers should familiarize themselves with the rules for use of this mask. And then don't ask any man to wear a filter mask in violation of the limitations.

Question 8. What effect do fog and steam have on filter-type masks?

Answer: Fog and steam tend to consolidate the chemicals in the filter mask and render inhalation more difficult.

Since a filter mask consists of layers of chemicals, the purpose of which is to remove gas and smoke, these must remain relatively dry if breathing is to be unimpaired. If, when a wearer inhales, he draws supersaturated air into the chemicals, the moisture will settle out of the chemical particles. When enough moisture collects it will become progressively more difficult to breathe. Canisters thus exposed will gain considerable weight. They soon become unusable and must be discarded. If men wearing these masks complain that they are having difficulty with their inhalation, their complaint is no doubt valid and the canister should be changed at once, if they are to continue to use the mask.

Question 9. What is an easy test for toxic gases generated in many modern fires?

Answer: There is no easy test for these gases. There are probably between 50 and 100 toxic fumes, gases or smoke which may be present in a fire today. With the use of plastics, thinners, solvents, etc., so widespread, a fireman may encounter almost any known gas or combination of gases. These are in addition to carbon monoxide and the chance of oxygen deficiency. Not only does no one know the composition of the atmosphere into which he must go, he has no way of knowing what percentages of gases are present.

Some departments employed a very effective method of determining the presence of toxic gases at one time. They would send in a couple of companies with no masks or with inadequate ones and if most of the men were carried out, it was a pretty good sign that the atmosphere was harmful. The chief would then pull back or

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What the fire fighter can do to help at an emergency delivery

By AILEEN I. HOGAN, R.N., C.N.M., M.A.

Miss Hogan is consultant in maternity nursing at the Maternity Nursing Association, New York City. She received her R.N. from Columbia Presbyterian Medical Center, New York City; her B.A. and M.A. from Teachers College, Columbia University, and her C.N.M. from the Maternity Center Association School of Nurse-Midwifery.

Miss Hogan has served as staff nurse and head nurse at Sloane Hospital for Women, Columbia Presbyterian Medical Center, Labor and Delivery Service. She had four years of active service in European field operations with the Army Nurse Corps and served as chairman, Obstetric Nursing Service and assistant professor of Obstetric Nursing at Western Reserve University, Cleveland, Ohio.

THERE IS no experience more universal, more normal, more human, than being born. Yet so many insist on regarding birth as an emergency. One wishes sometimes that the baby could remember his experience, and that he could talk. He would certainly, 96 per cent of the time, tell us that while he appreciated a bit of help, his mother was quite capable of doing the job herself. We tend to forget that it is the mother who delivers the baby into the world. In our search for safety, asepsis and speed, we have also acquired a feeling that the birth of a baby is somewhat akin to a surgical operation, and that we must have all that goes with surgery.

Nature's plan

Nature has arranged things much more simply. One needs to know only Nature's basic plan, and then in an emergency stand by ready to help. However, when a fire department is involved in an emergency, there is usually little time for them to "stand by." What the fireman wants to know is, exactly what is going on, and how much help can one safely offer to the mother and baby.

We will present briefly what goes on at the actual time of birth, and the mother's and baby's immediate needs. Even this sketchy presentation should clarify things a bit for the fireman, and free him to use his known skill and judgment in an emergency.

The baby before birth is safely housed in his mother's uterus (womb). The uterus is a strong muscular organ kept closed by a circular set of muscles. Inside the uterus the baby floats in water, completely inclosed in a double cellophane-like sac. The sac has no opening, and is attached to the uterus by an organ called the placenta (afterbirth).

A 20 to 21-inch cord runs from the baby's umbilicus (navel) to the placenta. This cord carries two arteries and a vein. It is through these that the nourishment and oxygen is carried to the baby from the storehouse of the placenta, and through which the waste from the baby is carried to the placenta.

During birth the circular set of muscles which have kept the uterus closed is pulled back over the baby's head. Then the uterus and the other muscles in the mother's body help the baby out into the world. As the baby is born the cellophane-like sac breaks, and the baby arrives with a gush of fluid.

The baby is now born, but he is still attached by the cord to the placenta, and the placenta is still attached inside the uterus. The uterus continues to contract and gets smaller. As the uterus gets smaller it dislodges the placenta, and pushes it out after the baby. You now have the placenta and the baby, attached to each other by the umbilical cord.

With these facts in mind, let us go back and start with the emergency situation of a baby being born. Remembering that this is a situation in which the fire department is involved, we would like to point out that, in general, during labor, a mother can walk to safety. During actual delivery, if safety demanded, she could be wrapped in a blanket and carried. After the baby and the placenta have been born she could take the wrapped baby and placenta and move out of danger.

Whatever the environment, with the birth of the baby the situation boils down to this: Two people need immediate help — a mother and a baby. Do consider them as a unit, not separately.

The baby must breathe.

The mother's first need is for reassurance. Help them both, and at the same time. Pick the baby up *gently*, and by the feet. Do not "spank" the baby. Hold him head down. You pick the baby *up* so that he will not take his first breath in the pool of fluid which came along with his entrance into the world. Occasionally, when one of these babies arrives quite swiftly, he comes with the cellophane-like sac intact, and he is still floating around in the water. Break or tear the sac quickly and get the baby out. The baby must not take his first breath in water. You hold him head down so that the mucus which has collected in his airways before birth may now have a chance to drain out. If the airway is blocked with mucus the baby has difficulty in breathing. This baby has been born without anesthesia or narcotics. He will probably breathe and cry immediately.

As he cries, hold him up where the mother can see him. Tell her, with all the enthusiasm you can muster, that he is a beautiful baby. Point out something outstanding — the baby's size, his color, his cry. Then put the baby on his mother's abdomen, cover him with the mother's clothes, if you

Continued on page 508

Los Angeles strives to maintain

City fire fighters plan and train for protection of nation's second busiest air terminal

Los Angeles Fire Department crash crews at International Airport laid a 1,680-foot-long foam blanket on runway preparatory to belly-landing of this United Air Lines DC-7 with 16 aboard—*L.A.F.D. photo by R. G. MacNeil*

By PAUL DITZEL

EVERY two and one-quarter minutes, 365 days and nights a year, a plane lands or takes off at Los Angeles International Airport. To the Los Angeles Fire Department, responsible for fire protection at the nation's second busiest air terminal, this average figure represents an air crash fire potential occurring more than 316,000 times last year alone.

In terms of life hazard, more than 5,800,000 passengers—over 16,000 on an average day—traveled through International Airport in 1959 and it is estimated that by 1970 the terminal will serve as many as 23 million passengers a year. Yet the field has maintained a perfect safety record of no passenger fatalities since 1947.

How long such a record can be maintained is pure speculation, for the problem of providing fire protection at airports is complicated by the fact that no genuinely satisfactory method of preventing fire and averting loss of life in the specialized field of air crash fire fighting has yet been devised.

It is estimated that half the passengers of a burning aircraft may be expected to survive the first three minutes. The Los Angeles Fire Department crash operation is intended to provide the solution to this seemingly impossible critical time element. Their philosophy of crash fire fighting is to "discharge as much extinguishing agent as you can as fast as you can."

At present, two fire stations are located on the 3,000-acre Los Angeles International property. One, a four-piece facility, designated Fire Station No. 80, is situated almost at the geographical center of the field. The other, Fire Station No. 95, is at International Road and Century Boulevard and houses a pumper and aerial ladder.

In terms of the air crash fire fighting problem alone, the two stations are responsible for incidents along more than 5½ miles of runways.

At the time of this writing, 17 airlines serve the airport, and three more carriers are scheduled to start service by mid-1960. At least three additional international carriers are seeking to serve the area within the next year.

Nerve center of the airport's fire protection system is Fire Station 80.

Air crash and rescue strategy is centered around a rig designated Crash 80. The 21-ton piece of foam and/or water pumping apparatus was specially designed and is painted "In-

airport safety record

ternational Yellow" for quick spotting on the ground or from the air. The massive crash wagon is a 10-wheeler with all-wheel drive. Its crew consists of a captain, an auto fireman (driver), two turret operators (who ride behind the captain and driver) and three rescue men who ride the tailboard.

Powered by a 324-hp motor, it mounts, in addition, a pair of engines each driving a 750-gpm centrifugal pump. Heavy appliances for foam or water discharge consists of two turret guns mounted atop the cab with infinitely variable fog to solid stream nozzles. Mounted at front bumper level are three "ground-sweep" foam nozzles.

Total load discharge time for Crash 80 alone is shown to be two minutes. Practical operation under full-scale use enables Crash and Tank 80's crews to count upon a maximum of 5½ minutes of discharge from the tank capacities of 4,000 gallons of water and 165 gallons of liquid foam solution.

The communications system in the apparatus incorporates standard two-way fire department radio. In addition, a two-way transmitter-receiver tuned to aircraft control tower frequencies enables Crash 80's captain to monitor conversations between the tower and the pilot and to communicate directly with the tower. In addition, the captain, from his elevated seat beside the driver, commands an over-all view and can direct outside operations by using a PA system or radio.

***"Hot" fire drill on B-45 hulk by officers and crew of Crash 80. Note hose reel pivoting out from body. Hose line is fed through "fair leads" mounted on top of front bumper**—L.A.F.D. photo by George W. Homer*

No. 2 in the bulwark is Tank 80, also built to fire department specifications. Carrying a complement of an auto fireman (driver) and a rescue man, the rig is larger than Crash 80. It carries 2,500 gallons of water and is primarily intended as a backup water supply rig for Crash 80, although the tank is equipped with two foam eductors, enabling crash crewmen to take off two foam lines.

Folded in Tank 80's hose bed are 500 feet of 1½-inch hose line and 200 feet of 3½-inch line. Mounted on either side of the apparatus are roof extension ladders. For utmost speed in making hookups, the apparatus is equipped with a "quick-connect" which enables a hose connection to be made to a port at the rear of Crash 80 in less than 10 seconds.

Because of the peculiar sand and adobe terrain of International Airport, the all-wheel drive and special tires of both Crash and Tank 80 permit them to travel the sometimes soft ground with relative ease.

Third in the airport line of defense is Squad 80 with a complement of a single auto fireman (driver). The rig carries 400 feet of 1-inch and 600 feet of 1½-inch hose, plus 200 pounds of carbon dioxide manifolded into its hose reel. Dry chemical also is carried. The apparatus is equipped with a wide range of forcible entry and

Continued on page 509

***Air crash and rescue strategy at Los Angeles International Airport is centered around Crash 80. The 21-ton crash wagon is a 10-wheeler with all-wheel drive**—L.A.F.D. photo by D. A. Morton*

Advances In the Field of Resuscitation

Chicago Civil Defense Fire and Rescue Service volunteers revive fire fighter overcome by smoke with "Oxequip" unit carried on squad vehicle

—Chicago American photo

By LEWIS H. LAMBERT, M.D.*

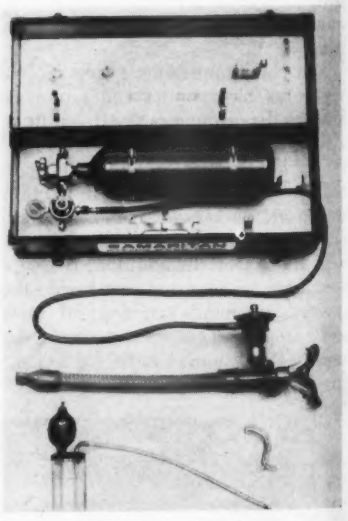
KEEPING STEP with progress in the over-all field of medicine, resuscitation has made several advances over the past few years. This has been true both in the areas of manual methods and also mechanical equipment. Perhaps the greatest impetus to such progress, particularly in equipment and methods available to rescue agencies, has been an ever-increasing number of emergency calls to fire departments of a rescue nature.

A recent study of various sized communities among the northeastern states has demonstrated that fire departments, regardless of size, are being called more and more frequently for first-aid and resuscitative assistance. There are probably many factors at work in this trend such as abandonment of ambulance service by municipalities, difficulties in procuring immediate services of a physician, and, most significant, the large-scale move of the American public to take to the highways, airways, and seaways during their leisure time. And it hasn't taken John Q. Public long to find out that if he needs assistance in the form of manpower and equipment in a hurry to call the fire department. No longer can the fire chief assume that first-aid training and rescue equipment are dust-collecting items.

No doubt one of the greatest advances in the resuscitative field has been the refinement and large-scale adoption of mouth-to-mouth breathing. There can be no question that this method produces the greatest exchange of air in the nonbreathing victim of any of our known manual methods. It is a credit to such investigators as Dr. Safar, Baltimore, Md.; Dr. Elam, Buffalo, N. Y.; and Dr. Gordon, Los Angeles, Calif., and others that the efficiency of mouth-to-mouth breathing is now a well-proven fact. It is of historical interest that this "new" method ranks as one of the oldest resuscitative procedures known to man. The Bible makes reference to the use of mouth-to-mouth breathing as a life-saving measure in the Book of Kings.

While mouth-to-mouth resuscitation offers the most efficient manual method of artificial breathing now available, there are certain factors which must be considered. The question of the esthetic hurdle has been voiced, namely, the placing of mouth against mouth is not exactly a hygienic or pleasant experience. Further than this is the hazard of disease transmission as in certain types of infection which may render a patient nonbreathing. It is almost impossible for the average first-aider to make "diagnoses" on the scene in such cases, nor should resusci-

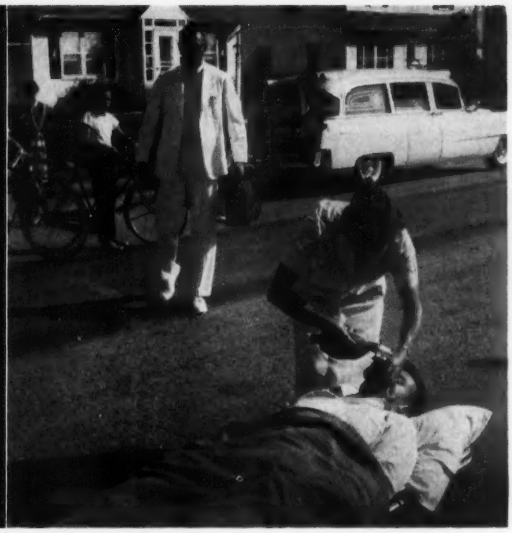
Continued on page 527



New combination "Samaritan" rescue breathing unit includes oxygen supply. May be independently employed as mechanical resuscitator, mouth-to-mask resuscitator or demand inhalator

—Courtesy Globe Industries

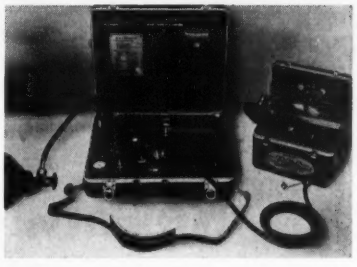
* Formerly Engineer, Hanover, N. H., Fire Department; flight surgeon, Civil Air Patrol, Sqdn. 78, Sacramento, Calif.



***LEFT:** New Haven, Conn., fire fighters employ "Ventilade" during training session. The electronic device has created great interest since its introduction*—*Courtesy Batrow Laboratories, Inc.* ***RIGHT:** "Ambu" manual rescue breather in use at emergency. Simplicity of operation and light weight is a feature*—*Courtesy Air-Shields, Inc.*

"First-in" resuscitator employs small oxygen cylinders in aluminum case to reduce over-all weight. The mask-valve assembly is said to operate efficiently at distances up to 200 feet from oxygen supply
—Courtesy National Cylinder Gas Co.

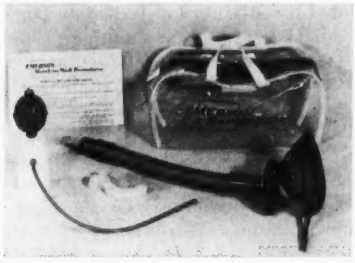
Recently introduced mouth-to-mask unit is constructed with soft plastic face mask to fit over mouth and nostrils of victim. One-way valve is mounted in breather tube—*Courtesy Venti-Breather Products, Inc.*



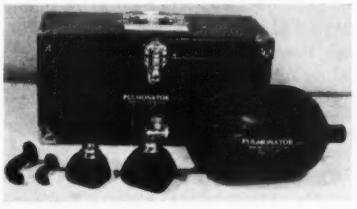
Auxiliary attachment permits employment of ""Pneolator" on two patients at same time. Large oxygen cylinder is connected as shown to supply additional demand—*Courtesy Mine Safety Appliances Co.*

Compact "Minuteman" resuscitator is versatile lightweight unit for first-in service. It is said to provide 40-minute operation with D cylinder
—Courtesy Stephenson Corp.

Rescue squad continues supply of oxygen on inhalator phase of "E & J" resuscitator while removing patient to ambulance. Versatility of major units is point in favor
—Ohio Chemical & Surgical Equipment Co.



Mouth-to-mask resuscitator kit includes aspirator, airway, facepiece and tube with instructions in compact clear plastic carrying case—*Courtesy J. H. Emerson Co.*



Hand-operated rescue breather complete with child's facepiece, airways and carrying case. Squeezing sponge-filled air bag provides positive pressure for resuscitation—*Western Anesthesia Equipment Co., Inc.*

Aerial photo of trestle-coal pocket. Damage to nearby dwellings and tenements can be noted on roofs

Newark coal trestle fire spreads to dwellings, school and brewery

FROM A REPORT BY CHIEF ENGINEER FRED WAIDELECK

BURNING BRANDS and radiated heat are still factors to be reckoned with in fire fighting. This observation was made during a recent near-conflagration in the "ironbound" section of Newark, N. J.

At 2:15 p.m., on Friday, April 15, a fire occurred among oil drums stored in an area between the Jersey Central Railroad embankment and an abandoned coal pocket and trestle off Market Street between Fillmore and Mott Streets. Approximately 1,800 drums of various oils belonging to the Onyx Oil and Resin Co. were in storage there. There was a moderately strong wind blowing from the south and the temperature at the time was in the 80's.

The fire quickly involved the western end of the wooden trestle and within minutes the entire structure and coal pocket (about 2½ blocks long) burst into flame, due no doubt to the creosoted wood and years of accumulated coal dust.

Deputy Chief Joseph Redden, responding on the first alarm, immediately ordered a second alarm at 2:20 p.m. Acting Chief of Department Philip Reilly, responding on second alarm, quickly transmitted a third and fourth alarm at 2:29 and 2:35 p.m.

Despite heavy stream appliances set up on Market Street, the intense radiated heat and flying firebrands set fires on both sides of Market Street and Fleming Avenue. Shortly after the fourth alarm had been ordered, it was noted that the roof of East Side High School was afire. Firebrands also started a small roof fire at P. Ballantine Co. Brewery, which was put out by their employees who continued to wet down the property.

Due to heavy traffic conditions and the direction of the spread of the fire, companies answering the third and fourth alarms were ordered by radio to respond via Ferry Street to Mott Street and work up Market Street and Fleming Avenue.

Due to burning brands and intense heat it was necessary shortly after the fire started to disconnect and move several first-alarm pumpers. Hose streams had to be played on the men and apparatus while they were being moved. Several pieces of apparatus were badly scorched and seat upholstery burned during this time.

Companies working up Market Street and Fleming Avenue set up heavy stream appliances to sweep the roofs and buildings and break down the heat while numerous hand lines were taken into the buildings involved. Deluge sets and hand lines also operated on the trestle fire from the Ferry Street side of the railroad embankment.

When it was noted that the fire was extending, Acting Chief Reilly ordered the recall of off-duty men. Within a short time, approximately 120 officers and men reported for duty. Some were assigned to man reserve apparatus located to cover the city, the rest reported to the fire.

Fifteen engine companies, four ladder companies, one rescue company

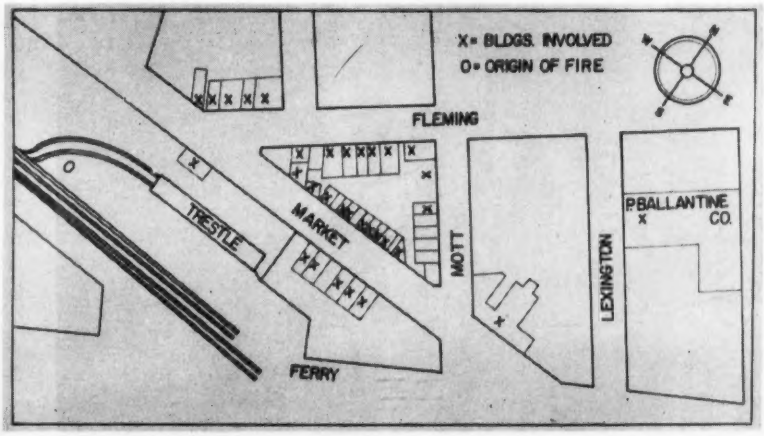
Damage to residential buildings at 688, 690 and 694 Market Street is shown on day following fire. Rear of 688 (right foreground) was severely burned—*Newark F. D. Training Academy photo*

Long-range hydraulic turret nozzle on pumper sweeps blazing trestle while fire fighters man portable turret in close-up position

Flames extend to neighborhood residences as firemen struggle to head off the blaze. Flying brands borne on wind eventually involved four-square block area

and one salvage company operated at the fire. In all, 29 dwellings received damage from roof, upper floor and cockloft fires, before the blaze was brought under control at 4:00 p.m.

Valuable assistance was given the department by the Bell and Siren Club, Newark "buff" organization, whose members stretched and manned lines and served coffee. P. Ballantine and Co. opened their cafeteria and housed and fed over 100 persons made homeless by the fire. The company later furnished transportation for these families to a housing project opened by the city. □□



Artificial respiration for laryngectomies

THERE ARE two different operations involving the trachea that are of interest to the fire department and to other emergency personnel. These conditions are of special interest to us because they warrant special consideration during resuscitation and manual artificial respiration.

Tracheotomy

A tracheotomy is a hole put into the trachea (windpipe) at the throat. It is performed in an emergency when the throat is blocked and ventilation can be achieved in no other way. It is also used to allow a patient to breathe during surgery on the larynx and other parts of the throat above the larynx. After surgery the patient can breathe either through the hole in the trachea or through his mouth and nose. This is only a temporary measure and after a period of time the tracheotomy is allowed to heal shut and the patient continues to breathe in the normal way. If such a person stops breathing he can be given any of the accepted methods of manual artificial respiration. A mechanical resuscitator can be used either through the opening in the trachea or the mouth and nose. However, whichever method is used, mouth and nose or hole in trachea, the other should be closed off or inefficient ventilation will be accomplished. This is also true of mouth to mouth or mouth to trachea. In cases where the jaw has been wired shut because of a broken jaw, it may be necessary, if no exchange can be made through the mouth and nose, to cut the wires holding the jawbone so that the mouth can be opened and the obstruction removed.

Laryngectomy

A laryngectomy is performed when the patient has cancer of the throat or larynx (vocal cords and voicebox). In this operation the larynx is removed completely by surgery. The trachea is then turned to the front and terminates in an opening in the neck slightly above the breastbone (Illustration 1). A surgical tie-off is then made, completely sealing the mouth and throat from the trachea. After this operation the patient breathes entirely through the hole in the throat. Because there is no longer any connection between the throat and the lungs, the victim can no longer be resuscitated by mouth-to-mouth artificial respiration or by using the resuscitator in the normal way over the mouth and nose. Any type of resuscitation used must be accomplished through the opening in the throat. Illustration 2 shows the trachea as it normally appears. Illustration 3 shows the position of the trachea and the surgical tie-off in throat after a laryngectomy has been performed. After the operation is performed, a laryngectomy tube (Illustrations 4 and 5) is inserted into the opening. The tube is worn for a month or so after the operation to keep the trachea open until the operation has completely healed. After this period the laryngectomy tube is not worn except by a very few laryngectomies. Illustration 4 shows the laryngectomy tube, which is really a tube within a tube, in the normal position for use. Illustration 5 shows the inside tube partly withdrawn. In case resuscitation is necessary and the laryngectomy tube is plugged, the inside tube may be removed and ventilation accomplished through the outer tube. In case of emergency, the whole laryngectomy tube may be withdrawn to accomplish ventilation. Some patients prefer to wear a cotton filter pad over the laryngectomy tube to keep out foreign materials. This can also be removed for resuscitation. After the surgery has healed, the male laryngectomy keeps foreign material out of the lungs by keeping his shirt collar buttoned over the trachea opening. The female laryngectomy usually wears a scarf or a decorative bib over the opening. It is necessary therefore to make certain, on any victim requiring resuscitation, that there is no opening in the throat. Resuscitation through the mouth and nose of a laryngectomy is absolutely useless. Resuscitation must be made through the trachea opening.

Resuscitation Procedure

On all victims requiring resuscitation, loosen the clothing at the throat and check all the way to the breastbone to discover if there is an opening. You cannot rely on watching for scars as the scars of the laryngectomy operation soon disappear. All

FIG. 1 *All photos by the St. Paul Fire Department Photo Lab.*

FIG. 4

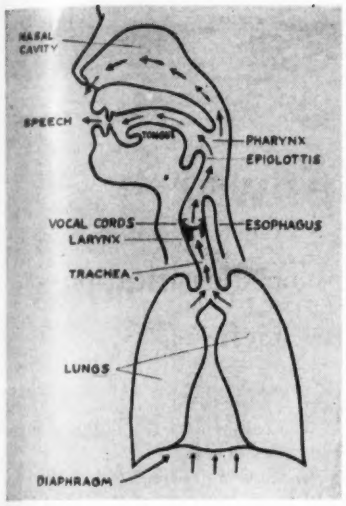


FIG. 2

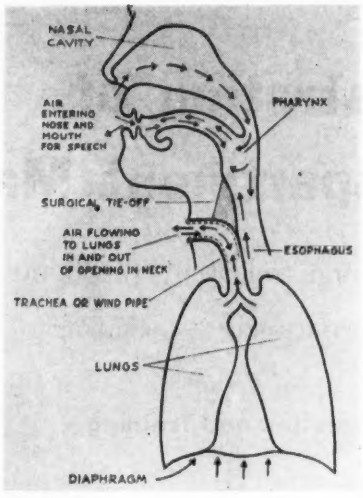


FIG. 3

Diagrams by Lost Chord Club of St. Paul

manual and mechanical methods of resuscitation can be used on a laryngectomy.

Manual Methods

1. Mouth to trachea

Proceed as in mouth to mouth. Place mouth over opening in trachea and breathe into victim. Avoid twisting of neck as this may partially block the opening. It is not necessary to close the nose in mouth to trachea. Mouth to trachea is more sanitary than mouth to mouth because most infections come from the nose and throat, and air coming directly from the lungs is much more sterile. If direct contact repels you, you may place a handkerchief or gauze bandage over the opening. Mouth to trachea is the most effective of the manual methods.

2. Back pressure, arm lift and the Sylvester systems

Use these systems the same as any other time but avoid twisting the neck. In the back pressure arm lift method, this can be done by placing the victim's nose and chin in a shoe. Be sure to protect the opening from dirt and dust. This can be done with a handkerchief or with gauze.

Mechanical Methods

Standard resuscitators can be used. The baby facepiece, applied on a crosswise position at the trachea opening (Illustration 6), was found to be best suited for this purpose.

1. Inhalator: Proceed as with ordinary victim, placing facepiece crosswise over trachea opening.

2. Resuscitation: Check for obstructions. If laryngectomy tube is obstructed, simply remove it. If tube is not plugged, resuscitation can be accomplished over the tube. Proceed as with ordinary victim, placing facepiece crosswise over trachea opening. If facepiece were placed on laryngectomy's mouth, the air would enter his stomach and his stomach would begin to bulge.

3. Aspiration: Aspiration should be performed in the following manner. The catheter tube should be pinched shut while being inserted. It should be directed to one side and inserted until resistance is felt. While turning the tube, slowly start withdrawing it before releasing suction. This prevents the catheter tube from adhering to and tearing the lining of the bronchial tubes. If this does not entirely remove the obstruction, direct the catheter tube to the opposite side and aspirate it also. If an unconscious laryngectomy is discovered who has a crust-like formation over the trachea opening, it must be removed before resuscitation can take place. Upon removal of this crust formation, superficial bleeding may occur which is not at all dangerous. □□

The foregoing is based on a lecture by Dr. James A. Donaldson, M.D., resident in otolaryngology, Veterans Hospital, Minneapolis, Minn., and approved by Dr. Jerome A. Hilger, clinical professor in otolaryngology, University of Minnesota Medical School.

District Chief Reuben Schmugge, in charge of training, under the direction of Fire Chief Frank Oberg, adapted the lecture for incorporation into the training program of the St. Paul Fire Department.

The Lost Chord Club of St. Paul, an association of laryngectomies, collaborated with the department in drawing up this training bulletin.

FIG. 5

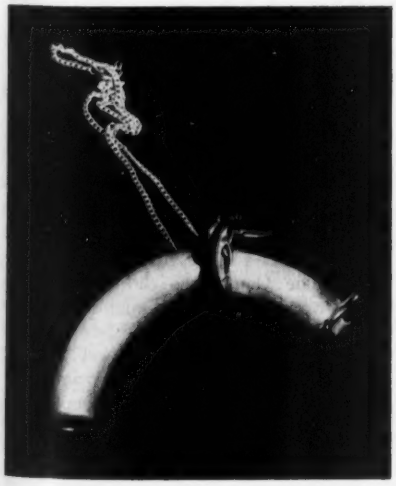


FIG. 6

Administration of Fire Department Manpower

A condensed analysis and report by the Committee on Classification and Examination, International Association of Fire Chiefs

Part II—Induction, Orientation and Training

A SOUND SYSTEM of fire department entrance and promotional examinations and an excellent training program are largely wasted efforts unless there has been sound recruitment to begin with. This Committee believes that a fire department should cooperate with the local central personnel agency at every turn and that all media of recruitment (local newspapers, radio programs including spot announcements, wide distribution of literature through fire stations and other fire contacts) be utilized where possible. The Committee has recommended to the Executive Board that a flyer telling the story of the work of a fire department and the need for competent men be made available by the IAFC headquarters office to members departments. Individual departments imprint their own name and upon distribution, achieve a concerted public relations advantage. If we could achieve the same kind of universal understanding of the fire fighter's job that "Smokey" is endeavoring to do in forest fire prevention it would be beneficial in the recruitment of qualified young men for the fire service.

Orientation and training

The development through training of a newly recruited fire fighter is the main task of management and proceeds on two bases. The first is complete orientation of an employee by thoroughly briefing him in his duties and instructing him how to use his skills and abilities to the best advantage of the fire fighting team. This will require formal training which requires management to definitely set a schedule of training, establish definite goals, and set a schedule for the accomplishment of the training.

It is well known and needs no elaboration here that the mastery of any job depends on: (1) The patience and guidance of the supervisor plus the training instructor, and (2) the willingness of the employee to do a good job. The recruits who have gone through a modern examination and screening process may possess all of the knowledge, skills and abilities necessary to do a good job, but it still remains for management to motivate the employee to be willing to do a good job. Management must instruct, supervise, check and repeat this process until the employee either is doing a creditable job or has demonstrated that he is incapable or unwilling to do an acceptable job. After a fire fighter is thoroughly instructed in his firemanics responsibilities and duties and has proven his capability of going higher and assuming command responsibilities, the same process repeats itself in the development of the individual not only to do a good job in his position, but to render encouragement to his seeking preparation to do a more responsible job.

Training must not overlook the inculcation of pride in the organization, the development of fire fighters, or sound attitudes of self-discipline. In command positions it must develop an understanding of the problems of leadership and the equally important rules of followership.

Regular Employee Evaluation For

1. **Probationary analysis**
2. **Employee improvement**
   a. **Answers: "How am I doing?"**
   b. **Guide for individual training needs**
3. **Preparation for promotion**
   a. **Guide for advanced training and development**
4. **Career advancement**

In view of the fact there is a committee on training in the IAFC, this Committee has not pursued the aspects of training, except insofar as suggested knowledge, skills and abilities were indicated by fire chiefs as desirable at each and every rank. These subject matter fields and ability components were considered in writing the class specifications.

In any soundly run fire organization, it is axiomatic that officers are continually evaluating the capacities of the men under them. What is sometimes overlooked is the essential need of the employee to know how he is doing. For that reason the Committee considered a number of suggested systems of employee evaluation which it believes should be done on a regular basis, not only on a recurring cycle for probationary employees but on at least an annual basis for all permanent employees and officers. The Committee is well aware of the inherent weaknesses in any system of employee evaluation, but here again if officers are trained sufficiently in the utilization of a technique and are sincerely interested in the development of their men, they will do their analysis with as much objectivity as humanly possible to the end that the employee's endeavor may be guided to its maximum potential.

A periodic employee evaluation is also useful to measure command officers' evaluations. They do not achieve their maximum usefulness until they are discussed by the supervising officer with the employee and a definite training schedule set to improve the employee's efforts and capabilities.

The Committee did not devise a form of instruction manual for this procedure inasmuch as our study indicated that the form and guide to performance evaluation put out by the Los Angeles County Fire Department and the Los Angeles Civil Service Commission adequately meets the cri-

Continued on page 506

Chief Karl Lehr of Plain Township, Ohio says

"We've got power to spare with our Hall-Scott Engine"

Plain Township's Volunteer fire department took delivery of its American Fire Apparatus-built pumper last summer. It passed the qualification tests, with flying colors, exceeding the rated capacity of 750 GPM by almost 30%—and the Hall-Scott engine was "just loafing," according to Chief Lehr.

No wonder, for the Model 590 Hall-Scott gasoline engine in the Diamond T chassis of this new vehicle delivers a peak 242 horsepower; more than enough for pumping or boosting hydrant pressure, and top-notch road performance in all terrains.

Hall-Scott engines are the preferred power plant for fire apparatus with chiefs the nation over. Their reputation for dependability, low maintenance, and tough, lugging power that never lets you down are the reasons. If you want the best for your next piece of apparatus, specify a Hall-Scott engine, designed especially for fire service. There are three models, ranging in horsepower from 242 to 320 maximum. If you would like further information, write to Hercules Motors Corp., Canton, Ohio.

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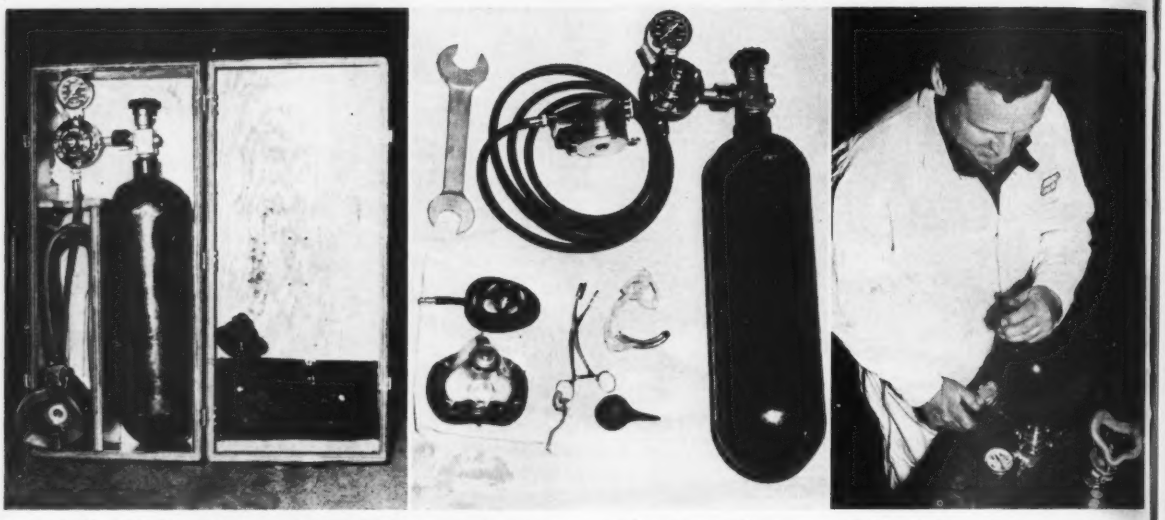
WATCH HERCULES FOR THE "NEW LOOK" IN ENGINES

short cuts and gadgets

Oakland's lightweight resuscitator unit



Left: Oakland lightweight resuscitation unit in compact carrying case weighs 16 pounds complete. Center: Complete unit removed from case. Resuscitation control valve is contained in facepiece assembly and permits ease of operation. Right: Specialist James Simpson of Oakland Fire Department Special Services, who designed original unit, checks operation after replacing oxygen cylinder

—Oakland F. D. photos by Captain R. E. Rohde

A unique change has occurred in the inhalator-resuscitator service of the Oakland, Calif., Fire Department. Under the direction of Chief Engineer James Sweeney, Specialist James Simpson assembled a lightweight resuscitator unit in 1948 which weighed 16 pounds. It proved to be a facility which resulted in increased effectiveness. The fire department adopted it and at the present time, has 20 lightweight resuscitator units and six commercial master units in service.

The lightweight resuscitator operates with a 4-ounce positive pressure, 3-ounce negative pressure, and one-ounce residual pressure, with one vacuum control. It is readily adaptable for use in pipe lines, excavations and enclosures where a standard resuscitator might offer a problem. An additional high measure of mobility is emphasized by the ease with which it can be used while transporting the victim to the ambulance.

The control valve is mounted on the facepiece, with a range of: OFF, SLOW, MEDIUM, and FAST, giving the operator complete control while observing the condition of the victim.

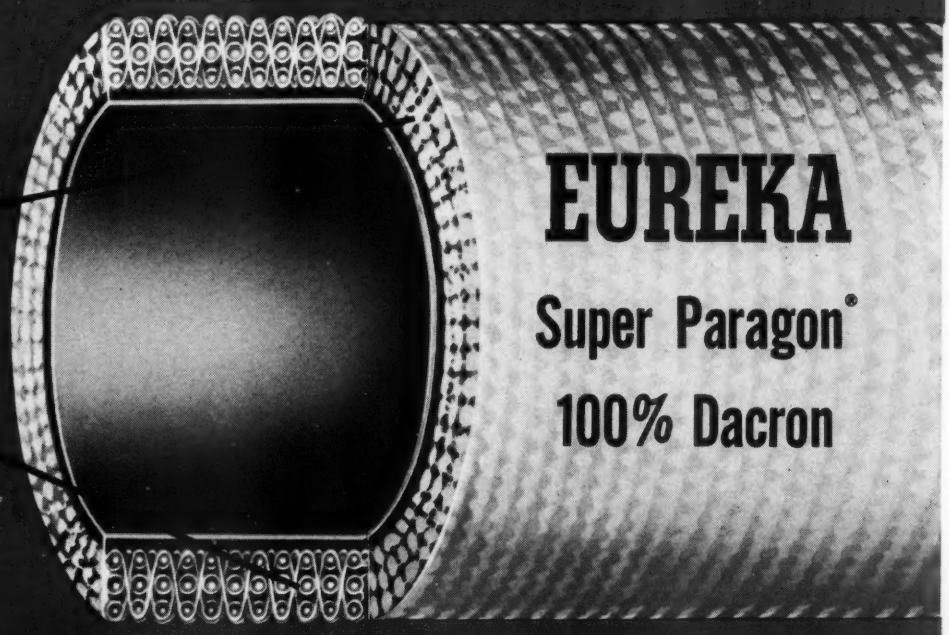
During the 1957-58 fiscal year the Oakland Department responded to 1,850 emergency resuscitator calls and was able to sustain life in 1,424 of these cases. Much of the credit for this success is due to the lightweight resuscitator.

Don P. Dietz

Improved Litter Basket

Fireman Hillis Baker of the Los Angeles Fire Department demonstrates an improved litter basket adopted by the department. A four-point suspension sling is made with aircraft-type cable and safety snaps. Note the metal skid located on the underside. Purpose of the skid is to prevent snagging while the litter is being pulled through brush or otherwise difficult terrain. The innovation was suggested by First Battalion Chief H. M. Inlow, Fireman E. S. Gerrard of Heavy Utility 7, and Captain C. P. Cramer of Truck 3. Following their suggestions, a subsequent study and evaluation of various types of slings for litter baskets and stretchers arrived at the improved basket. The baskets are assigned to Rescue 3, Heavy Utility 7, nine truck companies, two engine companies and to both Mountain Patrol stations. ***Paul C. Ditzel***

Multi-woven means a one-piece jacket



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The Eureka® Multi-Woven 100% Dacron Super Paragon does not use a cover to reinforce a cover. It doesn't need to because the exclusive multi-woven construction invented and perfected by Eureka makes this the strongest hose on the market without the use of "crutches." (600 lbs. test pressure.)

When you try to make a hose strong by building up a layer upon layer of jacket, you set up abrasion and you kink the hose. When the rubber tube breaks down under this treatment, as it must, it is difficult, if not impossible, to locate the rupture because water pours between the jackets. Eureka Multi-Woven has one, and only one, jacket.

Eureka is the hose that cannot be matched—it never lets you down. One sure way to get the dependability enjoyed by those cities which use Eureka is to give your order to your Eureka agent right away for the unique Eureka Multi-Woven 100% Dacron Super Paragon.

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Move in close, fast . . .

in heat reflecting gear

When seconds count—move up fast, step through the heat barrier. Fight fire closer to its source than ever before—stand fast until the fire is under control! You can do it safely and comfortably because garments made of "Scotch•Shield" Aluminized Fabric are flexible and reflect 90% of radiant heat. The quicker you put water or chemicals on a fire effectively, the faster it's out. Firemen wearing "Scotch•Shield" Fabric garments can take a 1½" line from the truck and move straight in, fast!

"Scotch•Shield" Fabric is the bright look used by hundreds of departments—is one of history's great advances in protection for firemen. There is more information about this fabric on the opposite page.

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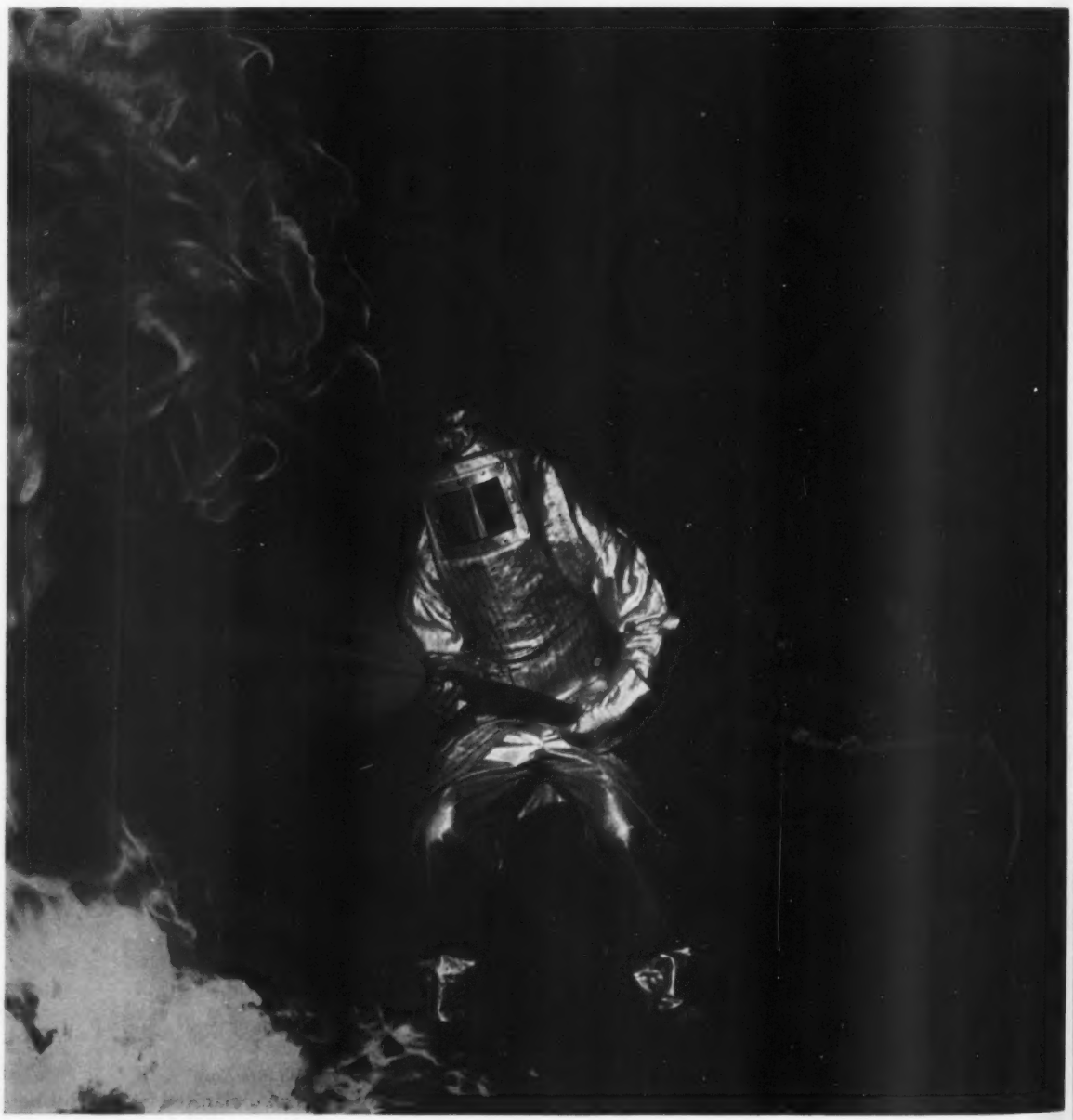
ALUMINIZED FABRIC



USC Offers First Fire Management Institute

The University of Southern California has announced a 12-week Fire Department Management Institute sponsored by the School of Public Administration in cooperation with the International Association of Fire Chiefs, the International Fire Administration Institute, the Pacific Coast Inter-Mountain Association of Fire Chiefs, and the California Fire Chiefs Association. The Institute is to be offered twice each year, once in the fall from October through December and again in the spring from February through May. A special 12-week program is offered for the summer of 1960 starting June 20 and ending September 9.

John D. Gerletti

The specialized program is designed to be a model for the development of similar courses in other parts of the country to prepare senior fire officers to work most effectively on the management team of their city. A parallel program is under development at Queens College, New York. The specific objective is to return the officer to his department with a 10-year integrated plan of development for the entire fire department with enough technical knowledge and information to implement this plan. Attendance is limited to 20 chiefs or "key" deputies at any 12-week course. These are considered men who will be in a position to put into practice what has been learned in the program.

Courses offered

Courses taught include: Advanced Fire Department Administration, Personnel Administration, Fire Prevention Administration, Supervision of Personnel, Public Organization and Management Methods and Personnel Training. Other areas of instruction will include: Public Relations and Information Programs, Government, Public Speaking, Legal Aspects of Fire Administration, Fire Department Planning, Arson, Fire Research, The Chief as an Executive, Civil Defense, Atomic Energy and Report Writing. Additional educational experience will be provided by means of weekly field trips and lectures by guest authorities from related fields.

Upon successful completion of the course 12 units of college credits will be available to those properly qualified and each person will also receive a certificate of satisfactory completion. The latter will bear the seal of the university as well as the seal of the International Association of Fire Chiefs.

John D. Gerletti, former manager of the International Association of Fire Chiefs, is coordinating the institute under the Fire Administration Program which he has been identified with since 1949. Acting as advisors is a board composed of Emery E. Olson, dean emeritus, School of Public Administration; Henry Reining, Jr., dean, School of Public Administration; Desmond L. Anderson, director, Civic Center Division, School of Public Administration; Dr. Gerletti; Chief William L. Miller, Los Angeles Fire Department, chairman, International Fire Administration Institute and president, California Fire Chiefs' Association; Chief William J. Taylor, Burbank Fire Department and first vice president, International Association of Fire Chiefs; Chief Keith Klinger, Los Angeles County Fire Department and member, board of directors, International Association of Fire Chiefs; Chief John Garthe, Santa Ana Fire Department and vice president, Pacific Coast Inter-Mountain Association of Fire Chiefs; Dr. Leonard Silvern, Hughes Aircraft Company and member, board of directors, International Fire Administration Institute.

Illinois Nursing Homes Study Fire Safety

A pioneer program of fire safety training for nursing home employees is being carried on throughout Illinois by the University of Illinois Division of University Extension. The course is available, on request of nursing home operators and local fire departments, to the 30 county and 125 private nursing homes in Illinois. In all cases instruction is offered in cooperation with local departments.

The five earliest classes were taught by Chief Joseph I. Fetters, extension specialist in firemanship training at the University. Instruction is now being carried on by Samuel Crow, extension specialist in firemanship training.

Most nursing homes already have schooled their staffs in emergency procedures; the fire safety training conducted by the U. of I. augments these programs. The U. of I. course is given in the nursing homes themselves. It consists of two sessions, each two hours long. Topics include fire prevention, recognition and elimination of hazards, and evacuation techniques.

How much—what type of Reflective clothing does a department need?

Many airport departments have equipped their entire force with "Scotch·Shield" Fabric garments. However, two suits are providing basic "starter" protection for other departments. Approach and proximity jobs can be performed with reflective hoods, bunker coats and pants, and gloves—rescue jobs with complete "entry" suits.

What is

SCOTCH·SHIELD BRAND ALUMINIZED FABRIC

It's a fabric made of pure aluminum vapor-coated on lightweight rayon, asbestos, or glass cloth. Its bright aluminum finish reflects 90% of radiant heat. "Scotch·Shield" Fabric is extremely flexible and resists stress or tearing, won't peel or crack. Durability far exceeds other fabrics given equal heat exposure. It produces reflective-protective garments lighter than conventional bunker clothing—it eliminates the need for bulky insulation type gear. Return the coupon for literature describing "Scotch·Shield" Fabric and its uses in firefighting.

Try this heat test . . . within seconds the conventional bunker coat smoldered . . . "Scotch·Shield" Fabric garment protected for the duration of the 100 gallon spill fire!

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Garments made from "Scotch·Shield" Fabric are available through your regular fire equipment suppliers. Or you can secure the name of fabricators by checking the box in the coupon below.

Minnesota Mining and Manufacturing Company
Dept. RBX-60, St. Paul 6, Minn.

☐ Please send me additional information on "Scotch·Shield" Aluminized Fabric.

☐ Please send names of firms manufacturing "Scotch·Shield" Fabric garments.

Name_____

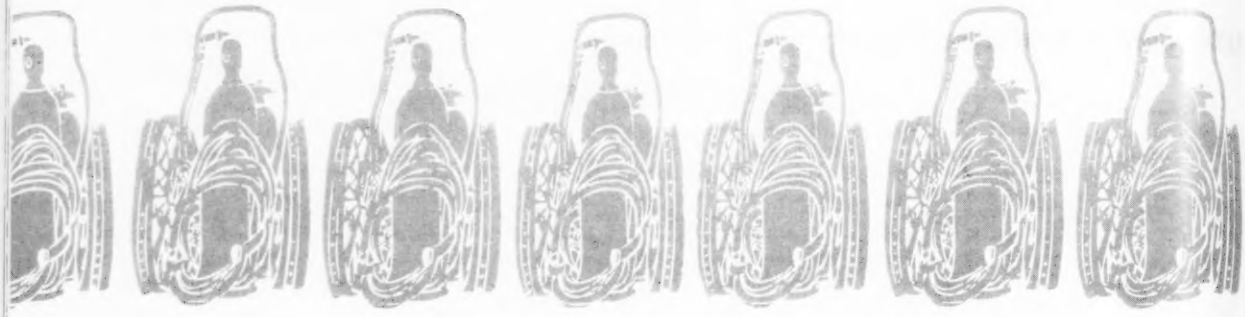
Title_____

Fire Dept. or Firm_____

Address_____

City_____ Zone____ State_____

MINNESOTA MINING AND MANUFACTURING COMPANY
...WHERE RESEARCH IS THE KEY TO TOMORROW
ST. PAUL 6, MINNESOTA



This fire extinguisher, Ansul's HF 350-B, has just been granted the highest fire-killing rating ever awarded by Underwriters' Laboratories—160 B:C. It's an achievement symbolic of Ansul's continuing leadership in fire research... a milestone in the never-ending search for new ideas, new products for better fire protection.

Your local Ansul Man is a trained fire protection expert, available to survey your plant and counsel on your fire protection requirements. We invite you to call on him (he's listed in the Yellow Pages) or write directly to ANSUL CHEMICAL COMPANY, Marinette, Wisconsin. We'll be pleased to send our new fire equipment catalog, describing the complete Ansul line of hand portable, wheeled, stationary and mobile fire extinguishing equipment and automatic systems.

ANSUL

ANSUL CHEMICAL COMPANY • MARINETTE, WISCONSIN | FIRE EXTINGUISHING EQUIPMENT • REFRIGERATION PRODUCTS • INDUSTRIAL CHEMICALS

FALSE ALARMS

The project had been a huge success and the president of the club was all expansive smiles and compliments. Finally he called on the committee chairmen for a few words.

Two or three rose and said the usual things, then it came the turn of the chairman of the entertainment committee, who had had problems unknown to the president. Smiling blandly, he remarked, "On most committees, half the members do all the work and the other half do nothing. On this committee I am happy to report, just the reverse was true."

Metallic Marvel

A "young-timer" was describing the company gold brick who had quite a bit of seniority on him—"He has gold in his teeth, silver in his hair, and lead in his pants."

A driver-educator instructor in the Clinton schools, took two boys and two girls out for a lesson in changing tires.

They stopped in a residential section when it was the turn of one of the girls to change a tire.

While the girl toiled, there came an indignant woman's voice from a nearby house:

"It seems to me that you men could at least help that girl, instead of just standing around."

—Norris T. Morton

Lawyer: "What's the change you want made in your will?"

Miserable: "I'm leaving everything to my wife, but only if she marries again within a year. Then I'll know somebody will be sorry I died!"

Bachelor's Note

A pretty girl is like a melody. After you marry her, you have to face the music.

Specific Instructions

"You can't wear a two-piece bathing suit on this beach," warned the stern police officer.

"Oh?" said the innocent young lady. "Which piece do you want me to remove?"

Judge: "Now, Sir, you may, if you wish, challenge any member of the jury."

Prisoner: "Well, I'm not in very good condition, but I believe I can lick that little guy in the end seat."

Two firemen were convalescing in a hospital endowed by a very strict organization known for its opposition to gambling in any form. The firemen, wanting something to do, repeatedly asked for playing cards but were refused. Finally they asked the superintendent if they might have 52 "Case Report Cards" and their request was granted. The firemen set about devising their own game of poker. Instead of suits and numbers, betting was based on the information on the cards.

After dealing, drawing and betting, one of the firemen said, "I'll check. What have you got?"

"Two pair—a pair of adenoids and a pair of tonsils. What are you holding?"

"Four enemas," replied the first. "I win the pot."

Reasonable Accuracy

A certain fire chief took a cute blonde to a dimly lit night club one evening. Fearing his wife would be upset when he failed to arrive home at a reasonable hour, telephoned her and said, "I won't be home until late, dear, I'm trying out a new siren."

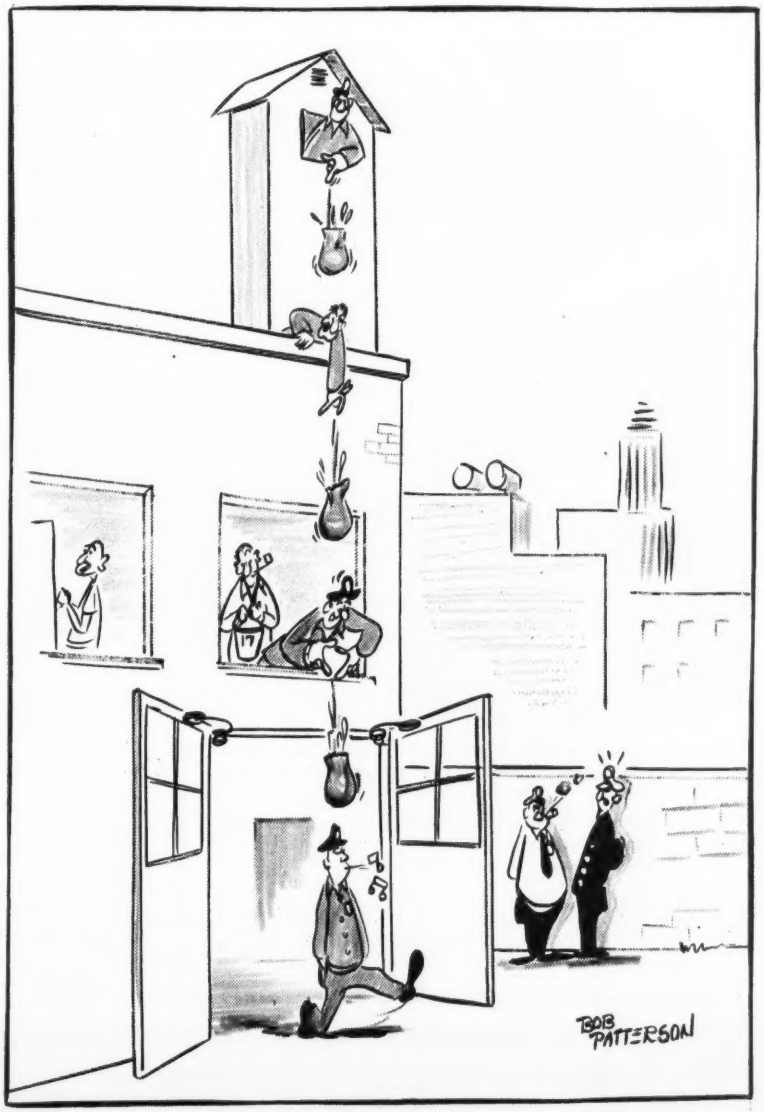
—Bob Hamm

Bank Teller: "So you wish to open a joint account with your husband? A checking account, I suppose?"

Mrs.: "A checking account for me, yes, and just a deposit acount for my husband."

Manager to House Detective: "Did you find any of our towels in the suitcase of that visiting fireman?"

House Dick: "No, I didn't find any towels in his suitcase. But I found the chambermaid in his grip."



"I think this damned horseplay is beginning to get a little out of hand!"

MIDWESTERN

Safety Clothing for Firemen

The Original STRIPED SAFETY COAT

The striped safety coat for firemen is an Original Midwestern development — first in the field — a leader ever since its introduction 19 years ago.

The BRILLIANT YELLOW stripes are actually rubberized into the black rubber . . . an exclusive feature that defies comparison with substitute or imitation models where the stripes are glued, sewed or painted on the material.

When working under hazardous conditions in smoke, fog, dust or darkness, firemen deserve the superior quality, design, comfort and safety features offered by the Original Midwestern Safety Coat.

Many Fire Chiefs who insist on the best of protection for the men of their department specify MIDWESTERN SAFETY garments to the last man because every outstanding Midwestern feature is original. All fabrics are extremely soft and flexible and have the qualities to stay that way at varying temperatures. You can always distinguish a MIDWESTERN SAFETY garment by the soft feeling of the material in both rubber and fabric type garments.

We have always designed and constructed our garments with the one thought . . . that every fireman deserves complete protection in his hazardous work of protecting life and property against the ravages of fire.

COMBINATION BUNKER SUITS

The many weights of both rubber coated and cloth type materials offered in our MIDWESTERN Quick-Hitch suit makes this combination ideal for all sections of the domestic market and export. Also, both coat and bunker pants may be purchased with or without detachable wool linings.

MIDWESTERN SAFETY MANUFACTURING CO.
Mackinaw, Illinois

- ☐ Have Midwestern representative call with complete information and prices.
- ☐ Send Free Catalog and fabric samples.

Name_____

Address_____

City_____ State_____

NONE GENUINE WITHOUT THIS TRADE

MIDWESTERN SAFETY MFG. CO., Mackinaw, Ill.
Located in the heart of the Greater Peoria Manufacturing Area
Manufacturers of the Famous MACKINAW Safety Coat

Train-Truck Wreck Kills 14, Injures 71

Kern County firemen played key roles in the massive rescue operations activated when the Santa Fe Chief hit a loaded diesel tank truck and trailer near Bakersfield, Calif., March 1. The collision between the Oakland to Chicago 11-car train and the Oglesby Brothers tanker and trailer occurred at Allen and Hageman Roads crossing six miles west of Bakersfield.

Kern County central fire dispatcher received the first call at 5:10 p.m. from an unknown farmer at the scene of the collision. Within seconds all trunk lines into the dispatching center were lighted, advising of the collision, fire, injuries and that there were possible fatalities.

Nearest fire equipment was at Grennacres Station approximately three miles from the scene of the crash. Dispatched were Z-152, a patrol pumper with a 125-gallon tank and Z-141, a 500-gallon triple. From the Shafter Station, eight miles distant, were dispatched Z-32, patrol, Z-55 triple with a 400-gallon tank and Z-140 pumper-tanker with 1000 gallons of water. From Bakersfield Fire Headquarters, First Assistant Chief Robert Williams, Battalion 6 Chief Stanley Hensley; Battalion 3 Chief Milton Bell; Assistant Fire Marshal Dwight Doolittle and Battalion 5 Chief James Clary responded.

When the first-in units reached the scene and sized up the problem, additional apparatus was immediately dispatched from Bakersfield. Included were Z-60, 500-gallon triple; Z-129, 1500-gallon pumper-tanker; a rescue unit, heavy equipment and several mechanics from the department's shops. The major portion of the fire was in and around the three collapsed diesel engine units. Actual extinguishment was accomplished in approximately 20 minutes. The fire was allowed to burn in and around the engines and available water from the tanks—there was no water at the scene —was used to prevent the spread of flames to passenger cars.

The scene in the flat farm fields was eerie as the telescoped cars of the 11-car train lay on their sides. Ambulances from Bakersfield as well as Shafter, Wasco and Delano were rushed to the scene along with heavy bulldozers and cranes.

All the capsized cars were laddered by firemen and entry was made through side windows on top of the cars.

At least three bulldozers were in service along with six mobile cranes and other heavy equipment. Fire Marshal Johnson reported numerous cutting torches were used.

Over-all charge evolved through coordination of First Assistant Chief Williams, Lieutenant Al Loustalot of the Kern County Sheriff's Department, Lieutenant Jack Bourdeau of the California Highway Patrol and R. L. Rhoads, general car foreman of the A. T. & S. F. Railroad. Firemen were joined by deputy sheriffs, highway patrolmen, railroad workers and volunteers in removing the dead and injured from the twisted wreckage. *—Cliff Dektar*

THE MINUTE THAT WAS FOREVER FOR THE FACE AT THE WINDOW

The ladderman had a brief glimpse of a terror-stricken face at the window. Just as he reached it, the floor collapsed and the face disappeared.

But it wasn't that final minute which decided the fate of the face in the window—it was one of the seven minutes it took to pull the hose off the pumper and get water on the fire.

Bi-Lateral flips off the pumper faster because it's more flexible, and because it folds flatter. Bi-Lateral construction allows *more* hose on each pumper—enabling you to cover more fire, faster. Save time—save lives —with Bi-Lateral.

Bi-Lateral construction saves you *more* than precious minutes, because the same flat-folding feature is responsible for the protection of the lining. This means you replace it far less often—*you save precious dollars, too!* Bi-Lateral costs less per foot per year.

Bi-Lateral **FIRE HOSE COMPANY**

20 N. Wacker Drive • Chicago 6, Illinois

Coming in August . . .

THE 1960 Fire Chief's Conference and Buyers Guide Issue

of FIRE ENGINEERING

The issue referred to time and again throughout the year for buying . . .

RESERVE SPACE NOW . . .

And when you do—you can be sure your advertising will do a job for you. It will reach practically every fire chief of any importance in the country. It will be put into the hands of fire officials who, for years, have known FIRE ENGINEERING to be the "Bible" of the field. Advertising won't go far—won't do a job—unless the reader is enthusiastic about the paper that carries your message. FIRE ENGINEERING—in the fire field—is the ONE and only ONE paper that has the enthusiastic readership of practically every worth while fire chief in the country!

Bear in mind, if you will, that to be effective—to do a job for you—your story has got to reach and be read by FIRE CHIEFS and OFFICIALS—men who can BUY or recommend buying your product. FIRE ENGINEERING is specially edited for these men!

Be sure to reserve effective space now—and be sure we have your listings for the BUYER'S GUIDE DIRECTORY section. This is a really effective buying help for thousands of fire chiefs—be sure we have your listings (listing blanks on request) and—be sure to plan your advertising well and effectively for this important Conference and Buyers' Guide Directory Issue.

What space shall we put you down for?

CLOSING DATE: JULY 25

FIRE ENGINEERING

466 Lexington Ave., New York 17, N. Y. ORegon 9-4000

CHICAGO: 59 East Van Buren Street, Rm. 1210 • WAbash 2-7738

LOS ANGELES: August Haurin, Jr., 6000 Miramonte Blvd. • LUdlow 5-5525

WHAT'S NEW

Among the Manufacturers

- **products**
- **processes**
- **personalities**

Rockwood PocketAIRE Mask

Rockwood Sprinkler Co., Worcester, Mass., is now marketing its PocketAIRE mask for protection of fire fighters against breathing hazards. Employing oxygen, the compact lightweight units are supplied in three sizes: A small 5-minute cylinder model, a 15-minute cylinder type and a 25-minute cylinder working unit. Each mask is equipped with an additional cylinder which provides five minutes of extra oxygen for emergency escape purposes. All models are available in either full or half-face pieces. The largest model is said to weigh only 9 pounds.

Granet Glo-Gluvs

The Granet Corporation, Framingham, Mass., has announced a new work glove which provides spot identification for workers involved in hazardous applications or where signaling is necessary. The outer covering of the gloves are furnished with bright "Day-Glo" color.

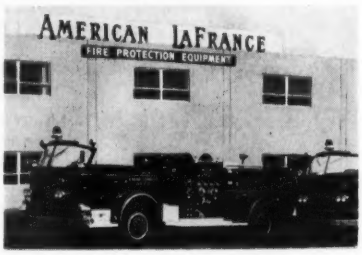
New Hannay Products

Clifford B. Hannay and Son, Inc., Westerlo, N. Y., announces a positive-control rewind motor for fire hose reels which is available for both 6 and 12-volt electrical systems. It has also introduced slotted-sleeve Teflon bearings for chrome booster hose roller and spool assemblies. These are claimed to eliminate binding and reduce shaft noise and friction.

Foster Salvage Covers

The Foster Co., Inc., 430 Notre Dame Street, New Orleans, La., is offering "Dixie Dry" salvage covers in nominal sizes of 12 x 14 feet to 15 x 18 feet. Made of 10-ounce duck, it is claimed they are treated for water and mildew resistance.

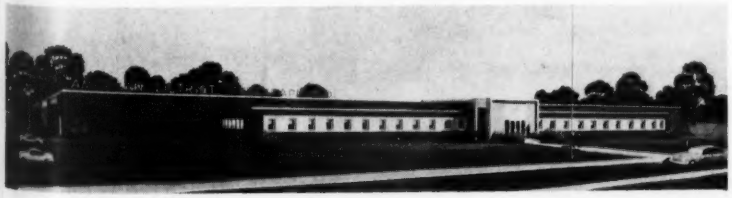
New LaFrance Office



American LaFrance recently announced the opening of a new San Francisco district office in suburban Burlingame. It is located on the Bayshore highway at 868 Burlway Road, less than a mile from the San Francisco International Airport. Out of the congested area, there are ample parking facilities. The new location is said to provide increased stock and storage facilities for better service to West Coast fire departments.

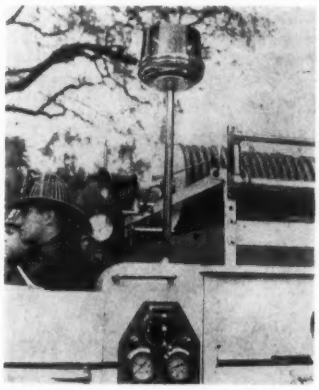
ADT Builds New Manufacturing Plant and Warehouse

American District Telegraph Company is erecting a new manufacturing plant in Clifton, N. J., E. F. Gaston, president, has announced. The new building, with a floor area of 100,000 square feet, will replace manufacturing and warehousing facilities now located at 155 Sixth Avenue, New York. ADT executive offices will remain in New York. The single-story plant is being built on a 10-acre plot by Mahony-Troast Construction Company of Clifton.



Dietz Warning Light

R. E. Dietz Co., 225 Wilkinson Street, Syracuse 1, N. Y., has introduced its new model No. 211 emergency warning light for fire trucks which can be installed as shown or attached directly to the cab roof. Four sealed beam bulbs inside the



acrylic plastic lens revolve continuously and the frequency of the beam pattern can be set at 60 or 120 light flashes per minute. The unit is available for six, 12 or 24-volt operation and with red, amber, blue or clear lens.

Portable Oxygen Unit

The Medical Division, The Burdett Oxygen Co., 3300 Lakeside Avenue, Cleveland 14, Ohio, is marketing a portable oxygen kit which is claimed to be low in cost and simple to operate. It is said to be useful for victims of heart attacks, shock, asthma, etc.

Portable Radio Unit

Seiscor Division, Seismograph Service Corp., Box 1590, Tulsa, Okla., has announced a portable two-way radio system designed for limited range and light weight. The completely transistorized

transmitter-receiver is said to weigh less than one pound including batteries. Five models are available including belt-pack and safety-helmet styles. Transmitter output is claimed to be 750 milliwatts.

Continued on next page

Continued from previous page

Medical Oxygen Units

Oxy-Lyfe Corporation, 3232 Archer Avenue, Chicago 8, Ill., announces three new oxygen units designed specifically for fire and police department use. Represented as extremely lightweight, they feature dual breathing outlets, reserve tank capacity and interchangeable cylinder sizes.

M-S-A Escape Mask

Mine Safety Appliances Co., Pittsburgh 8, Pa., has introduced a new demand mask designed for approximately five minutes use under exertion. Said to weigh 8 pounds and carried on a nylon harness, it incorporates the demand valve directly in the air cylinder and is refilled without removing regulator or valves. A sintered metal filter is said to protect the refilling hose from entrance of rust and other contaminants.

Appointments and Promotions

James M. Flounders has been appointed vice president in charge of research and development for the Boston Woven Hose & Rubber Division, American Biltrite Rubber Co., Inc., Cambridge, Mass.

He has been associated with the manufacture, development and sales of industrial and consumer rubber products for over 20 years. Starting in the technical department, Electric Hose and Rubber Co., he then transferred to the technical department of B. F. Goodrich. Later he became sales manager of hose, and most recently, was director of new product development for the B. F. Goodrich Industrial Products Company. He succeeds Norman J. Cyphers, who resigned.

Laurens L. Battis has been named eastern regional sales manager, Special Products Division, by Globe Industries, Inc., Dayton, Ohio. He will headquarter in Kinnelon, N. J.

William B. Marx, well-known New York State consultant and former assistant chief of the Middletown Fire Department, has accepted a fire protection consultant position with the Liberty Fire Equipment Co., Liberty, N. Y. For the past five years he has been a Public Protection Department engineer, New York Fire Insurance Rating Organization, most recently in the Syracuse district. He will make his headquarters in Liberty.

Eugene B. Findley has been appointed director of operations for Ward LaFrance Truck Corp., Elmira Heights, N. Y. He was formerly works manager of the Buffalo Metals Processing Division, Curtiss-Wright Corp.

J. Drenon Bone has been appointed southern regional sales manager, Scott Aviation Corporation. He will cover the

ALTERNATOR-GENERATOR
L-N alternators supply sufficient curre
even at idle, to carry any electrical lo
Won't let the battery discharge. Ma
types now available with built-in Silic
rectifier. Outperform and outlast conv
tional generators, reduce expensive ge
ator maintenance. Companion double c
tact L-N regulators provide consta
voltage control.
STD. HEAVY DUTY
60 Amp—21 lbs.
HEAVY DUTY
60 and 100 Amp —
33 lbs.
EXTRA HEAVY DU
50 to 125 Amps
36 lbs.

southeastern states from his headquarters at 1036 Oxford Road, N. E., Atlanta, Ga.

Arthur F. Woods, general sales manager of the Marlow Pumps Division, Bell & Gossett Co., Midland Park, N. J., has been appointed vice president and general sales manager.

Mr. Woods joined Marlow Pumps in 1949 as a sales engineer. He was promoted to sales manager in 1954 and general sales manager in 1958.

Scott R. Schleicher, general manager, has been appointed vice president and general manager.

He joined Marlow Pumps in 1950 as an engineer, was promoted to production manager later in 1950 and general manager in 1958.

Glenn R. Petersen has been named manager of marketing for General Electric Company's Communication Products Department.

He will be responsible for the company's marketing programs in the two-way radio, microwave, power line carrier current and advanced military communication fields.

Gordon Mead has been named manager of the account executive program in the West for Motorola Communications & Electronics, Inc. Headquartered in Sacramento, Calif., he will direct account executives in the states of Washington, Oregon, Idaho, Montana, Wyoming, Colorado, Utah, Nevada, Arizona and California.

E. N. Cellentani has been appointed signal and systems sales manager for Sperti Faraday, Inc., Adrian, Mich., and will be responsible for nation-wide sales and marketing of the company's signals and signal systems.

He joined Sperti Faraday in 1944 and has held various positions since. In 1958 he was appointed sales office supervisor.

Joseph Parry has been appointed signal and system sales representative in Wisconsin, with headquarters at 312 East Wisconsin Avenue, Milwaukee. He was formerly district manager in the Cleveland office of Edwards Co.

FWD Corporation, Clintonville, Wis., has announced the following dealer appointments:

Crighton Distributors, Inc., 223 East Broadway, Williston, N. D., have been appointed dealers in FWD Corp. fire apparatus and trucks for 11 North Dakota counties.

Whitehead-Blaha Co., Inc., 1402 East Overland Drive, Scottsbluff, Neb., will sell fire apparatus and trucks in 11 Nebraska counties.

Suncoast Safety & Industrial Equipment Sales, 610 Walton Avenue, Tarpon Springs, Fla., will represent FWD in fire apparatus only in 13 Florida counties.

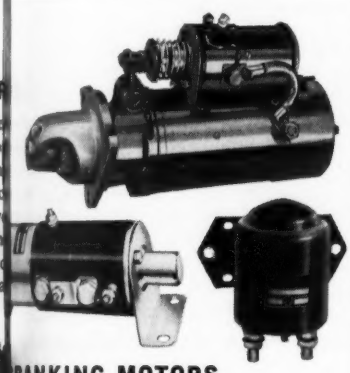
Great Lakes Fire Equipment Co., Barrington, Ill., has been named by Bi-Lateral Fire Hose Co., Chicago, to service the State of Illinois formerly covered by the late Richard M. Lawless.

C. M. Donahue and E. W. Merry, vice presidents of Mine Safety Appliances Company, Pittsburgh, Pa., have been elected to new posts in the international and domestic operations of the company. Mr. Donahue becomes president of the M.S.A. International Division, and continues as vice president of the parent company. Merry becomes executive vice president in charge of domestic operations.

M. C. "Mose" Arnett has been appointed sales representative, New Orleans District, Delta Fire and Safety Inc., with offices at 523 Magazine, New Orleans, La. He was formerly safety engineer for Loffland Brothers Co.

New Panic Hardware

An emergency exit device for door openings which is said to provide protection against both fire and panic has been developed by Sargent and Co., hardware manufacturer. The newly designed exit devices have successfully passed three-hour Underwriters' Laboratories fire tests on Class "A" fire door openings under actual burning conditions. ☐☐

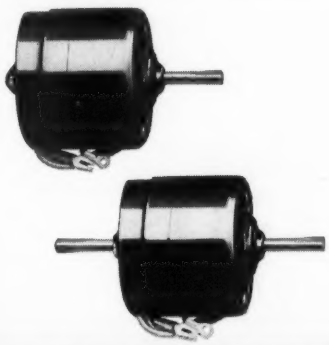


RANKING MOTORS, WITCHES

omplete line of long-life L-N electric anking motors with Bendix or Solenoid hift drives. Feature extra output, long rush life and superior lubrication. Also ll line of straight single voltage and eries parallel cranking switches—12, 24 d 32 volt systems.

FRACTIONAL H.P. MOTORS

Leece-Neville sells more than 3-million small motors annually. Single or double end shafts. Complete line for 6 through 24 volt systems.



LE FO DVANCED DESIGN ELECTRICAL PARTS

or more than 50 years, ece-Neville has retained reputation as the quality der for automotive elec- cal equipment, especially the heavy duty field. day Leece-Neville sup- es a complete line of elec- ical components—com- titive in price and superior quality—through a nation- de network of fully quali- d service outlets. Reduce ur electrical system main- nance expense by specify- g Leece-Neville parts for placement or on your w vehicles.

QUALITY AUTOMOTIVE ELECTRICAL EQUIPMENT
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SINCE 1909
OUR 50th ANNIVERSARY

Leece-Neville Company, Dept. FE-6.
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☐ Please send name of nearest L-N distributor
Please send more information on:
☐ Alternators ☐ Generators ☐ Small Motors
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Name _____ Title _____
Company _____
Address _____
City _____ State _____

FIRE DEPARTMENT MANPOWER

Continued from page 492

teria which the Committee set for employee evaluation.

Good employee relations

Considerable attention was given to some of the techniques for achieving good employee relations. A good number of rule books put out by many departments were surveyed. It is essential that an employee know the rules of the department just as it is essential that people know the rudiments of the rules in playing any game or participating in any sport.

We recommend the adoption of a book of rules for fire department personnel. We believe it is desirable that a committee composed of both men and officers review the various provisions of the rule book periodically and discuss needed changes with the chief. If the rule book is not kept up to date and if it does not adequately reflect the function of the fire department, it is worse than having no rules at all.

Besides an adequate rule book for the fire department, the Committee believes a fire chief should call to the attention of the management of his community the fact that a good employee manual is desirable and should be made available not only to fire department personnel but to employees of other departments in the community as well. This may be a primary responsibility of the central personnel agency or it may be worked out by the conference method through a representation of various departments and various levels of responsibility. Since it is becoming more widely known that the individual is the key to good public relations, tips to employees and to supervisors and rather constant reminders of the role played in public relations should be available to all.

Personnel records

Like good fire records, good personnel records are a "must" in any well-managed fire department. It is true, of course, that in many instances the central personnel agency will maintain these basic records, and it may not be necessary nor even desirable to have a duplicate set in fire headquarters.

If your department is not fortunate enough to have a central personnel system for all departments of your community, there are four basic records that are recommended as a minimum. First is a good application blank which not only establishes many of the background features of the applicant, but is a running record of his formal schooling and his employment history.

While the Committee advocates properly developed sound written examinations for entrance into the fire service and for promotions upward through the ranks, it expects that as a part of the examination scheme there will be on file a sound medical blank which will indicate the person's medical adaptability to the fire service at the time of entrance. It is obvious, of course, that unless there is a central personnel agency examining physician or a departmental fire surgeon, any industrial physician that is used to give the medical examinations must be thoroughly briefed as to the physical needs of the candidates for the fire service.

It is believed the medical exam should be supported by an adequate agility test which indicates the prospective fire fighter's ability to perform the physical work of the job. Instructors in physical education in local school systems, YMCA physical directors and others are in a good position to assist fire administrative officers in setting up a physical agility test which will adequately measure candidates' physical ability to do the job. In addition, this Committee has considered

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THE ONLY FIRE EXTINGUISHERS APPROVED BY UNDERWRITERS' LABORATORIES FOR ALL CLASSES OF FIRES: CLASS A, B, C AND MAGNESIUM

Manufactured for **ALIM CORPORATION**
Manufacturers of Saf®
Fire Retardant Paints
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Write to **ALIM CORPORATION**
11 Park Place, New York 7, N.Y.
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Specify Brochure FE2

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and is in the process of writing a manual covering the more usual events that are put together to measure arm and leg strength, pectoral and muscular endurance, thoracic capacity, etc.

A roster record of the employee's history is absolutely essential. Where the central personnel agency is not located convenient to fire headquarters, it is recommended that a roster record system, coupled with a position history, be kept in fire administration headquarters. Keeping this up to date is the responsibility of whoever is in charge of departmental personnel. This file should contain a record of commendations and citations for valor as well as a record of training and of disciplinary actions.

The Committee has not formally put together any manual on employee records since most of the private office record companies have forms and systems for keeping personnel data. These can be utilized by any fire chief or responsible officer in devising whatever essential personnel records are indicated in any given situation. □□

Abbreviated Edition of Canadian Code Available

Canadian Underwriters' Association recently published an abbreviated edition of its Fire Prevention Code. This edition is designed specifically as an advisory document for the smaller municipalities throughout Canada, and prescribes the very minimum regulations governing conditions hazardous to life and property from fire.

The use of this code, in its entirety or in part, by any municipality in drafting and enacting a suitable ordinance to meet local requirements, followed up by proper enforcement of such ordinances, will constitute a definite step towards the safety of its citizens against loss of life by fire, and in the reduction of property damage by fire.

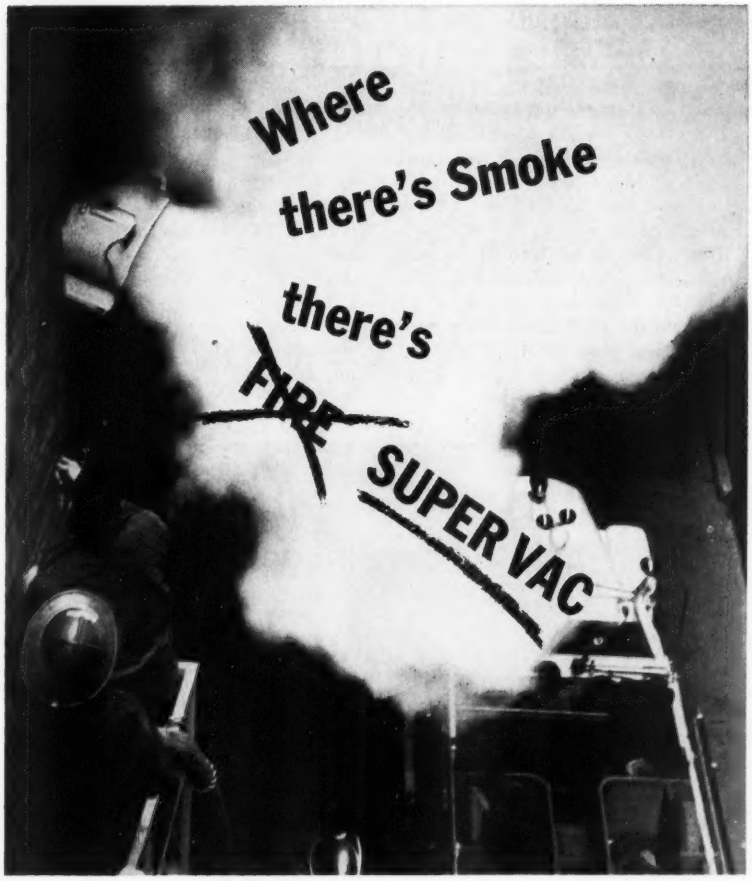
Copies of the recommended Fire Prevention Code (abbreviated edition) are available to municipal officials and others free of charge from the Canadian Underwriters' Association, 460 St. John Street, Montreal 1, Que., and affiliated Underwriters' Associations.

L. A. County Adds Trucks

The Los Angeles County Fire Department recently purchased three new 85-foot aerials with 310-hp engines. New companies were established at Station 20, Norwalk; Station 42, Rosemead; and Station 105, Compton.

The 85-foot aerial formerly assigned at Station 8, West Hollywood, was reassigned as Truck 105, with one of the new rigs placed in the Hollywood area. L. A. County now has seven truck companies in service.

Cliff Dektar



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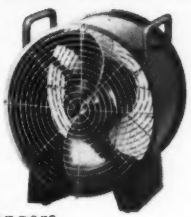

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EMERGENCY DELIVERIES

Continued from page 483

have nothing else available. Have the mother support and shield him while you wait for the placenta to arrive.

If the placenta has not yet been born, WAIT PATIENTLY. DO NOT CUT THE CORD. DO NOT PULL ON THE CORD. WAIT.

Remember that unclean hands may carry death to the mother. Keep the hands away from the birth canal. Twin dangers stand at your elbow. If you cut the cord with unclean hands, using unboiled scissors and unsterile tape, the baby is in danger (tetanus we have in mind). If you pull on the cord, the mother is in danger of hemorrhage as well as infection. Wait . . . Nature knows her job.

The baby on the mother's abdomen will have the same effect on the mother's uterus as the medication which would usually be given in the labor room. It will help the uterus contract and expel the placenta. Again, DO NOT CUT THE CORD. Soon after the baby cries, the flow of blood through the cord ceases. Clots gradually block off the vessels in the cord. Leave the placenta and the cord attached to the baby until the separation can be done under clean or aseptic conditions. This may not be esthetic, but it is safe for the baby.

Wrap the baby and the cord and the placenta in whatever you have available and give them to the mother. The danger in the hour after birth is for the mother. The uterus should be clamping down into a hard grapefruit-like ball, which can be felt if the mother puts her hand down over her abdomen at a level with the umbilicus. As the uterus clamps down it closes off the blood vessels that were under the placenta, and prevents any bleeding. If the mother feels the uterus getting soft, a little massage over the abdomen will often encourage the uterus to harden up again. In the hospital the mother is given medication to help the uterus clamp down. The baby nursing at the mother's breast has the same effect on the uterus as the medication would have.

The baby lives happily, snugly, comfortably, though a little messily, while waiting for medical aid to arrive. He has the warmth and haven of his mother's arms and all the nourishment he needs for several days in the mother's breasts.

Needs of mother

The mother needs fluids, and food, and rest—but at this moment particularly, she needs fluids. Remember that when the baby is born the mother is able to pick him up and move to safety. Of course, we hope she would not have to . . . that she could be carried. Keep the mother and baby together.

If the mother has to be left alone with the new baby, instruct her briefly as to the baby's need for warmth; and gentleness in handling; for nursing; for help in lowering the head should mucus accumulate in the baby's throat, and should he have some difficulty in getting rid of it. Explain why the cord has not been cut. Emphasize that she is giving the baby all he needs, and that she will be able to continue to do so. Reassure her that help is coming.

In summarizing:

The mother needs:

Reassurance—presence of someone who knows what to do.

Prevention of infection—hands off the vaginal and rectal areas. Do not touch the cord before the placenta arrives.

Prevention of hemorrhage—baby to breast as soon as placenta arrives. Massage of abdomen over the uterus only if the uterus is soft and flabby (should be hard like grapefruit).

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Install Kohler electric plants for reliable, automatic emergency power as specified by the new OCDM directive covering civil defense radio. Stand-by generators are required at base and repeater stations, and control positions, before equipment can be purchased with matching Federal funds.

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Nutrition—fluids and food.

Rest—if possible. Encourage to get up frequently and soon.

The baby needs:

To breathe—lift him out of water, lower head so that mucus can run out, handle with great gentleness at all times.

Prevention of infection—do not cut the cord until it can be done under clean condition.

Nutrition, warmth and security—mother can supply these.

Some form of identification immediately to be put on baby. □□

AIRPORT FIRE PROTECTION

Continued from page 485

rescue tools and equipment, including specially shielded axes, pry bars and bolt cutters.

Equally important in the over-all fire protection strategy is Engine 80, a triple combination 1,250 - gallon pumper. Its manpower consists of a captain, engineer (driver) and at least three firemen. Whereas most pumpers in the Los Angeles Fire Department carry between 1,200 and 1,500 feet of 2½-inch hose, Engine 80 carries 1,800 feet because its lays to hydrants along the perimeter of the field are considerably longer than standard fire fighting practice.

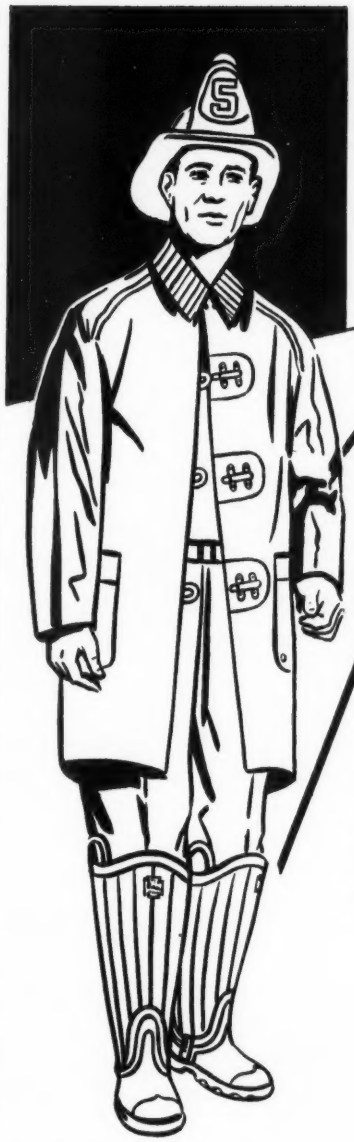
In addition to these four pieces of basic air crash and rescue service rigs, a foam pumper is housed in Station 80. The apparatus carries 200 gallons of bulk liquid foam, plus ladders and miscellaneous rescue gear.

Fire Station No. 95, located on the outer edge of the field slightly better than a mile east of Station 80, houses a 1,250 - gallon triple combination pumper, manned by four to five men, plus a late model 65-foot aerial ladder. The truck company maintains a constant complement of between five and six men and is primarily intended for manpower during air crash incidents.

In addition to their air crash and rescue capabilities, both Engine and Truck 95 have a large airport industrial area to protect. Some 285 industries with a payroll in excess of $300 million annually are located within a 1-mile radius of the airport.

Precisely planned air crash fire-protection strategy at International Airport incorporates speed, teamwork, and a thorough knowledge of aircraft, together with a facile ability with rescue and forcible entry tools which are incessantly drilled into the crack personnel.

The excellence of the system starts in the airport control tower. When an aircraft emergency requiring crash



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wagon aid occurs, the control tower operator merely picks up a telephone and is automatically connected with Station 80, as well as the West Los Angeles Signal Office of the fire department. The instant the control tower phone is lifted, a steady alarm bell rings throughout Station 80 and a light flashes on the phone in the station's business office.

So precise is the turnout training at Station 80, that crash crewmen are already pulling on their protective clothing and fire hoods and auto firemen are revving up the apparatus engines while the "floor watch" man is obtaining information from the tower. (Standard LAFD procedure is for a captain to receive the alarm information from the dispatcher, but in air crash practice precious seconds are saved by the "floor watch" man who is generally closest to the central tower phone.)

By prearrangement with the tower, only brief information as to the nature of the emergency is given. More complete details are radioed to Crash 80 when it pulls out of the station and onto the field. The control tower operator gives three details of the emergency: (1) Type of plane; (2) Runway involved; (3) Nature of emergency. This information enables the captain of Crash 80 to determine the position he will take on the field, and he can make a reasonably accurate estimate as to where the plane—depending upon its size and nature of the trouble—is likely to come to a stop.

Response within seconds

Turnout time has been estimated at under 40 seconds from the time alarm rings. Even before the crash wagons leave the station their radios are operating. As they begin to take up their position and the captain ascertains wind direction, the control tower notifies Crash 80 of other pertinent information such as the number of passengers aboard; amount and type of fuel, and perhaps which landing gear has developed a malfunction. This additional information also is used by the captain of Crash 80 to determine whether to notify the West Los Angeles Signal Office to dispatch extra companies and call for ambulances.

As station 80 is turning out, the West Los Angeles Signal Office is dispatching the chief of the 16th Battalion (whose territory includes the airport); Truck 95; and in cases where aircraft are directly involved in the incident, Engine 95, and nearby Engine 5, located 1½ miles away.

Standard International Airport crash practice calls for Station 80's apparatus to maintain a relatively tight line of single file as they proceed to the scene of the emergency to take up a position closest to where the incoming aircraft is likely to stop. Although all apparatus maintains radio communication with each other, a tight unit of fire and rescue forces makes for compactness and also eases the control tower's problem in radioing them clearance to cross runways while responding to the scene of the emergency.

Assuming that an aircraft is down and fully involved, the following operational strategy has been evolved:

The crash wagons approach at full speed from the windward. When Crash 80 (rated at 50 m.p.h.), the lead unit, is between 60 and 70 feet from the fire and still moving it slows to 5 miles per hour—its captain orders one of the two turret men behind him to open up one of the roof turrets and direct a straight stream to the fuselage where the life hazard is concentrated. Although each turret has a

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capability of directing a stream up to 130 feet, the foam "shot" directed by the turretman (who stands on a platform so that his body from the waist up is above the cab roof) has the effect of determining whether Crash 80 is on target.

Once zeroed in on the fuselage the problem is to keep the skin from burning through, or if it is ruptured to prevent spread of fire, heat and smoke into the pilot's and passengers' compartments. At this time, the second turret is put into operation and as Crash 80 slowly advances toward the fire, the turret men switch over to variable pattern foam streams as the fire conditions warrant. Meanwhile, the captain may activate the ground sweeps to attack the fire on the ground and under the fuselage and wings.

Skilled coordination required

Coming closer to the burning aircraft, the turret gunners build a foam pathway along either side of the fuselage so as to provide an avenue of escape and to cut down radiated heat which by this time may be threatening to melt the fuselage skin. The turret guns are discharging 300 gallons of foam apiece per minute. (It is commonly accepted that foam expands 10 times as it leaves the nozzle; hence it can be said that each turret is discharging 3000 gallons of foam per minute.) When Crash 80 is about 10 feet from the blazing aircraft it stops.

The other crash rigs are simultaneously performing the following evolutions:

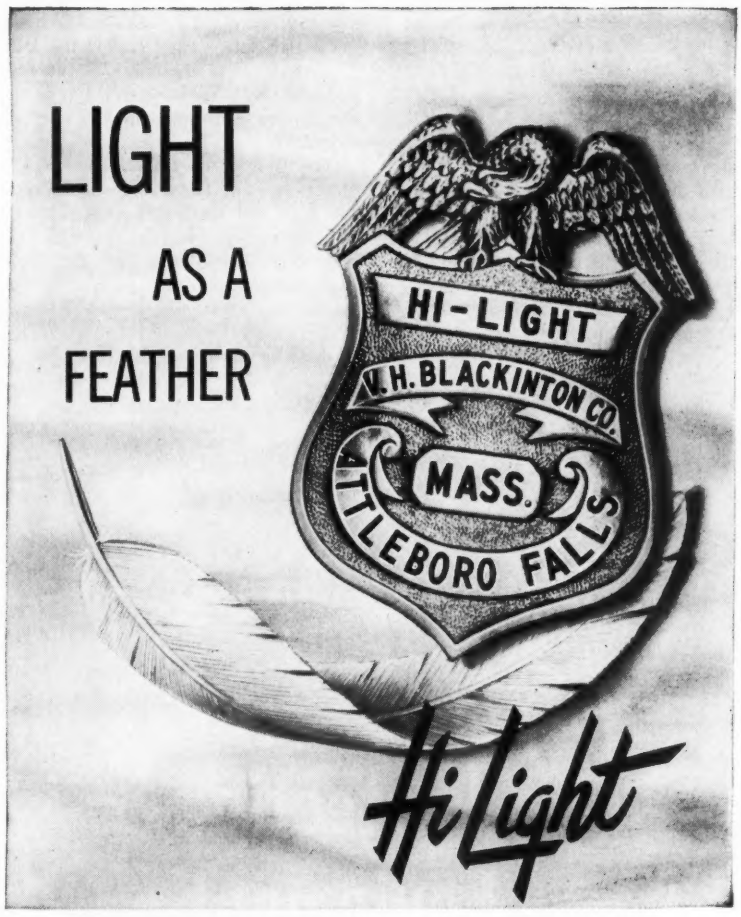
1. Tank 80 quarters on the *right* side of Crash 80, about 50 feet from the burning aircraft. The rescue man quickly breaks out the 3½-inch soft suction "quick connect" and joins it to the port at the rear of Crash 80.

2. Squad 80 quarters on the *left* side of Crash 80 and begins breaking out all necessary rescue and forcible entry equipment.

3. Engine 80 lays a 2½-inch line from the closest hydrant to Tank 80, and augments Tank 80's water supply.

4. The foam rig connects a line into Crash 80's hopper and immediately begins to pump a direct supply of foam solution.

5. All available manpower from Engine 80, Truck and Engine 95 report to the auto fireman of Squad 80 who becomes in effect the alter ego of the captain of Crash 80. So familiar



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is he with the operation that it is his duty to not only second-guess but to anticipate where the captain of Crash 80 will direct placement and operation of rescue men.

6. In addition to the full-time crash and rescue apparatus and men assigned to the airport, well-skilled and equipped fire brigades of both North American Aviation and Douglas Aircraft companies are responding to offer their assistance when emergency conditions warrant. Both North American and Douglas also have ambulances.

By now the three rescue men riding the tailboard of Crash 80 have peeled off to the right and to the left. They are joined by a fourth, the rescue man from Tank 80 who has made the "quick connect" to the rear of Crash 80.

The four men—advancing two on either side of Crash 80—swing out the port and starboard reels containing 150 feet of 1-inch rubber-jacketed hose line. They then feed the "redline" through the fair leads mounted on the top right and left side of Crash 80's bumper (note illustration). This enables Crash 80 to remain mobile if necessary. Should the rig be moved, its wheels will not foul the hose lines. Protected from heat by their turnouts and hoods, and crossing in front of Crash 80 so the ground sweeps can wet them down, the hand line men move in to attack fire under the wings or fuselage inaccessible to the turrets.

The hand line men advance along either side of the fuselage until they are at opposite ends of the plane. Their task then becomes one of maintaining the fire line and protecting the evacuation of passengers and crew. At this time the two rescue crews split; the nozzleman remaining with the hose, and the backup man joining rescue men from Engine and Squad 80 and Truck and Engine 95.

It may be assumed that the deluge of foam has by this time knocked down the main fire. The turrets and ground sweeps are shut down to conserve foam, although they can be quickly activated again if the fire flares up.

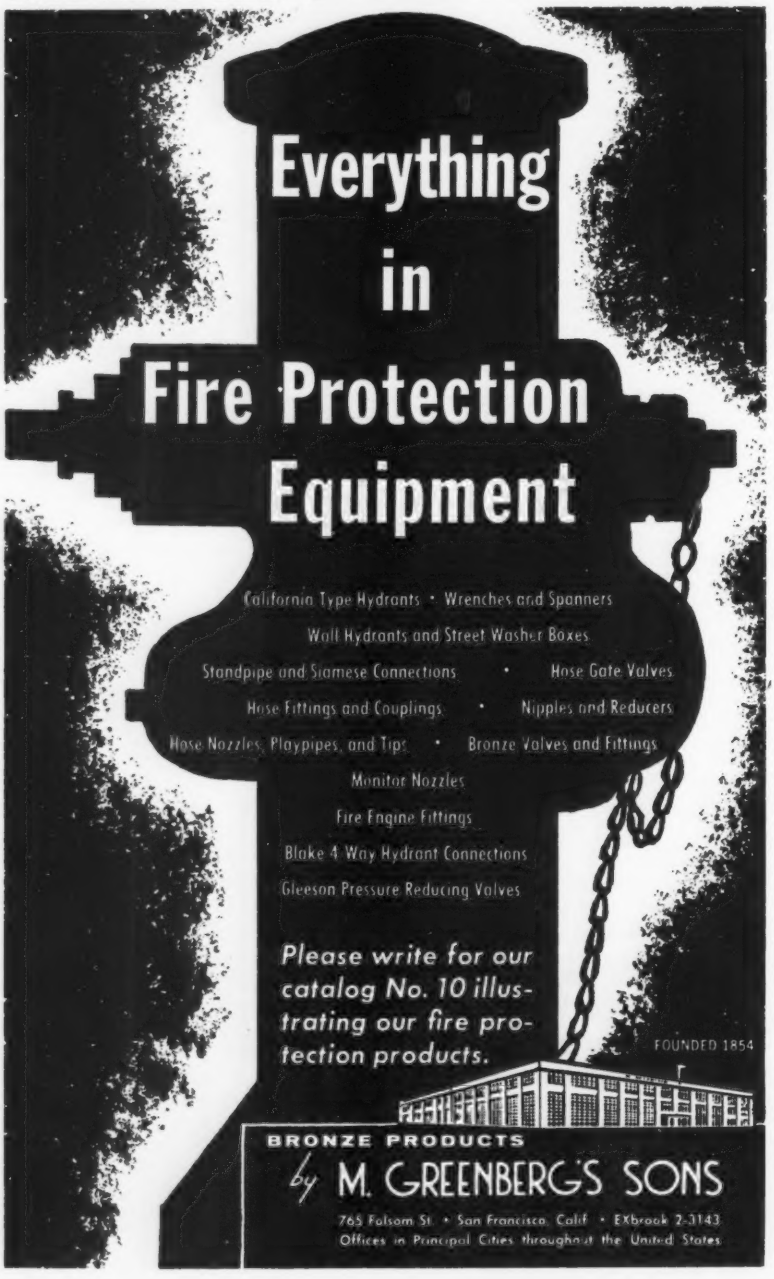
Evacuation of passengers and crew under most circumstances is through the foam fire line towards Crash 80 where the maximum protection remains constant.

The efficiency of the Los Angeles crash crews was demonstrated on Hallowe'en, 1957, when a United Air Lines DC-7 crew discovered a non-operative right main gear preparatory to landing after a flight from New York. While the plane with its 11 passengers and crew of five circled the Los Angeles area to consume fuel and thus minimize fire danger during the belly landing, crash crews laid a foam blanket 1680 feet long and 70 to 80 feet wide along Runway 25L.

To add to the problem, another aircraft lost an engine on take-off and made an emergency setdown on Runway 25R, some 300 feet to the north while the foam was being laid. Thanks to the skill of the pilot, the ship touched down short because the pilot wanted to make certain he'd stop within the blanket. The huge ship skidded 1,610 feet, 530 of those feet in the foam. The blanket effectively smothered the fuel spillage and ground fire although considerable sparks and burst of flame developed from friction as the fuselage skidded along the runway. There were no injuries.

So closely do the officers and men of the crash wagons work and so familiar must they become with each other's thinking, that it is estimated a minimum of six months is required before a newcomer to the crew is considered to be ready for full reliability.

Manpower assigned to the crash crews is generally made from Los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Angeles Fire Department personnel with a thorough background in more conventional firefighting. Some of the officers and men have had previous air crash experience and some, like Captain Wes Furman of Crash 80, are pilots.

Training proceeds on a regular schedule and no shift ends without a sizable portion of the time given over to study of their specialized craft. Too, companies due to respond to the airport on second and third alarms are given detailed briefings on crash procedure.

Basic, of course, is a thorough familiarity with the apparatus and the many rescue and forcible entry tools. Mock drills are held regularly with blackboard "chalk talks" and detailed examination of aircraft schematic charts. Especial attention is paid to configurations, a significant factor having considerable bearing on thickness of fuselage skin, and determination of points where friction sparking is likely to occur in belly landings.

Attention also is given to the variety of fuels burned by today's aircraft; passenger capacities; emergency means of ingress and egress; inflatable versus noninflatable escape chutes; landing and takeoff speeds.

Crash crews take every opportunity to study and field-inspect aircraft—especially new types as they land at the field. Too, the officers and men interview aircraft supervisors, maintenance men and manufacturers representatives, gleaning from each of them certain basic knowledge which one day might save vital seconds in rescue operations.

To familiarize crews with actual fire conditions and to build their confidence in the special protective clothing and hoods, pit fires are set in 25-foot-diameter circles. Fire conditions are experienced both in dry protective clothing and after wetting down. As conditions permit, "hot" fire drills are practised. Old hulks—such as a B-45—are set aflame and extinguished in full-scale rehearsals for the genuine incident.

Continuous reappraisal

Although the Los Angeles International Airport fire protection system is generally acknowledged to be excellent, plans are constantly being made to improve the operation. A revolutionary "Mobile Ramp" has been funded in the current Los Angeles Fire Department budget and is expected to be placed in service within a year. The apparatus will consist of a hydraulically operated and easily

Continued on page 527

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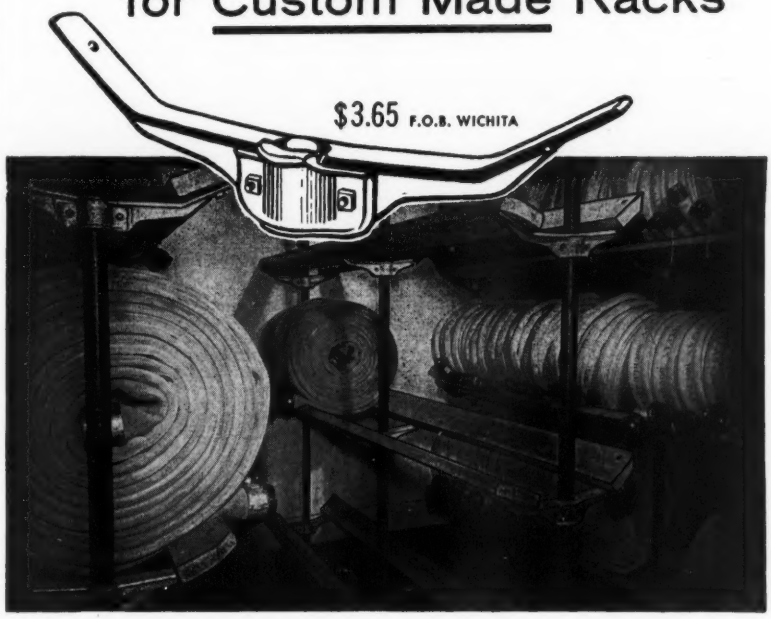

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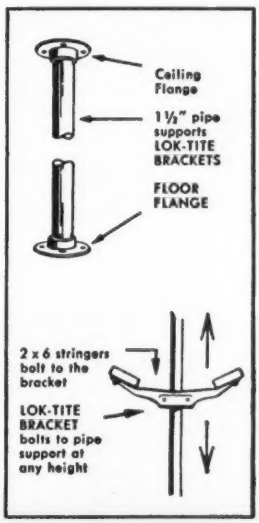
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Among the Buffs

By Paul C. Ditzel

THE ENVELOPE looked a whole lot like the many others that are directed to this column every month. But as I slit it open I noticed handwriting inside the envelope. And then I noticed the word, "Business" written across the top of the ruled page. A purple ink stamp, "Censored 2" was above it.

The letter, as I soon learned, was from Paul Vaillancourt, fire equipment engineer and buff. Paul is an inmate of the state prison at Walla Walla, Washington.

He would like to hear from anyone interested in the fire service and if the letters he has since written me are any indication—and I'm certain they are—readers of this column are in for an interesting and informative correspondence with this rather erudite man.

Paul's gratitude would more than repay you buff club secretaries and magazine editors if you placed his name on your mailing lists.

And of course I know Mr. Vaillancourt would eagerly read any letters received from individual buffs. He is interested in receiving "any material" pertaining to the fire service. Paul has given me permission to reprint certain portions of his letters, so I'll turn the floor over to him:

"I received your letter yesterday and I cannot begin to tell you how much I appreciate hearing from you. . . . It also pleases me beyond explanation that you would like to mention me in FIRE ENGINEERING. . . .

"The authorities here encourage us to write business correspondence and receive it, together with any literature or magazines that are educational and helpful to our own . . . individual profession. Also anything that will help us obtain employment or promise of employment upon release.

"I am 39-years-old and have been in the mechanical field since I was 19-years-old and have studied engine designing engineering at two different automobile factories and an eastern school. I became interested in fire equipment engineering and began working on them at every opportunity and studying everything pertaining to them. I have worked for two different companies (manufacturers of fire trucks) as a field service engineer. . . .

"I am thoroughly experienced in almost all types and makes of fire trucks, from designing, to building, to operation and fire fighting. I have had quite a number of thrilling and unforgettable experiences with equipment as well as actual fire fighting. I have top references as mechanic, machinist, and pump engineer, and also for precision and custom work, with many years of experience.

"In the past few years I have been working on a new type pump and from the experiments I have so far made with it, I know that I have something that far exceeds my own expectations and surpasses any pump that is now in use. . . . I have no way of working further on experiments until my release. I see no reason for not letting it be known now that I have such a design as I am sure that is the only way I will get any help with it in the future. . . .

"I don't think I mentioned in my first letter but I am here for writing a bad check. I received four years from the parole board and of that four I have one year and four months good time which leaves 32 months. I have almost ten months of that in.

"Complete restitution has been made and I should get some consideration on that. Also, in my next appearance before the parole board I could get a cut on the balance of my time, so I am hoping that . . . I can be forgiven (for my mistake) and continue on in the fire protection field.

"I can't think of much more to add to this letter. If there is anything further you wish to know about me please let me know as I can't begin to express the happiness it has given me to know that you are interested in me to such an extent.

"I will close for now, hoping to hear from you soon. Also, I would appreciate and be grateful for any material, literature, and pictures you (or the readers of your column) may wish to send."

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addressed to him, No. 27602, Post Office Box 520, Walla Walla, Washington.

On that note, I'll close, too, until next month. The address for material directed to this column remains the same: Paul C. Ditzel, 4234 Don Diablo Drive, Los Angeles 8, California. □□

Firemen Cooperate In Library Project

In an effort to attract talented high school students to a career in the field of fire engineering, Robert Alan Sloan, president, Springfield Volunteer Fire Department and W. T. Woodson, superintendent of Fairfax County, Virginia, Public Schools have announced that the library facilities of the Springfield department are available to all high school students.

Included in the library collection are nearly 150 publications. These items range from those designed for the layman to those written for mathematicians and chemists. Included are publications by the National Board of Fire Underwriters, National Fire Protection Association, International Association of Fire Chiefs, National Academy of Sciences, National Research Council, and other authoritative fire engineering groups.

The library is designed to help the student who merely wants to write a general report on fire prevention function as well as the one who is doing original research on flame propagation and extinguishment. The library is further designed to attract superior students to devoting their adult working lives to solving the problems of fire.

LAFD Burns 34 Homes In Practice Sessions

Thirty-four condemned homes in the vicinity of the Van Nuys Airport were put to the torch recently by the Los Angeles firemen as part of the fire department's continuing training exercises. The homes were condemned by the city because they were in the area of planned expansion for the airport. The 34 dwellings were the balance of structures which could not be moved and were otherwise considered worthless.

Fire Captain Richard Chinn led a group of firemen through three exercises as they fired a home:

1. A fire was kindled in the structure and heavy smoke conditions were created before firemen attacked the blaze. During this exercise the firemen wore breathing apparatus and searched for possible victims.

2. The blaze was rekindled and the source of the fire was concealed. The exercise was designed to require firemen to search for the causes.

3. The third rekindling was designed to heavily involve the attic area of the involved structure, before quick-working firemen tackled the flames.

Following these three exercises the entire building was burned.

Paul C. Ditzel

REPUBLIC

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Contains 16 pages of information on Fire Hose in general and Republic Fire Hose in particular. General information includes: Care and Use of Hose; Do's and Don'ts; Loose Edge Tube Construction; Provar Process and Wax Treatment; jackets, yarns, linings, grades. The 30 different grades of Republic Fire Hose are included under these categories: Chemical, Factory Mutual, Fire Engine Suction, Industrial, Municipal, Special Application and Underwriters'. Also includes four pages on Couplings.

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the round table

discussion of current fire department and fire management problems

Handling Manpower Shortages

THIS IS THE THIRD installment of the Round Table on handling manpower shortages.

Readers are invited to participate in the discussion which will be concluded in the July issue. Address replies to Round Table Editor, FIRE ENGINEERING, 466 Lexington Avenue, New York 17, N. Y.

The Discussion

J. L. Stevenson, Chief, Stockton, Calif.: The Stockton Fire Department is typical of most cities our size (85,000) insofar as desirable manpower is concerned, but in one or two ways we may be somewhat unique.

We have eight engine companies, three of which of necessity must operate with three-man crews. One two-piece company has a crew of six men, while the remaining four have four men each.

We are striving to obtain additional men to permit four-man operation of the three remaining engine companies, which in my opinion is about the ultimate, since here in Stockton we base our requirements on 3.31 men per position. I don't mean to imply that a four-man engine company can even begin to reach the acme of efficiency, but there is an economic limit beyond which the average small or middle-size city cannot go—and here we've just about reached that limit.

Both the fire department and the city are well within the limits of NBFU Insurance Class III, and there is little question but what that classification can be retained with current manpower, while the cost of obtaining a Class II rating (for the city) would be prohibitive.

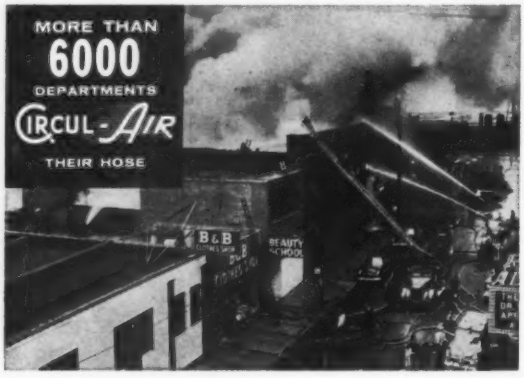
The excess of .31 men per position (we work 56 hours per week) provides the relief normally required for sickness and vacations. However, we make it a practice not to fill vacancies until five accumulate, thus we usually have the amount represented in the salaries for these vacant positions with which to hire firemen to work extra shifts (at straight time) enabling us to keep platoons at full strength and in balance.

G. L. Sartain, Chief, Tulsa, Okla.: The Tulsa Fire Department's personnel roster does not provide for extra men to be used to maintain company strength. We do not fill temporarily vacant positions due to illness or during vacation periods.

Men of lesser rank serving in acting capacities are substituted for company officers during illness, injury or vacation periods.

We are not provided with any extra personnel at all. In the event of sickness, injury, vacations, etc., our companies are forced to run short. We try to maintain full strength in our downtown and high-value companies by transferring personnel temporarily from less active companies.

Paul C. Fontaine, Chief, Fort Worth, Tex.: The fire fighting division of the department, which consists of members actually engaged in fire fighting, has a 60-hour work week schedule and operates on a two-platoon basis, with 24 hours on duty and 24 hours off duty. Under this arrangement, each member works five days in each 14-day cycle. With six-member platoon assignment,



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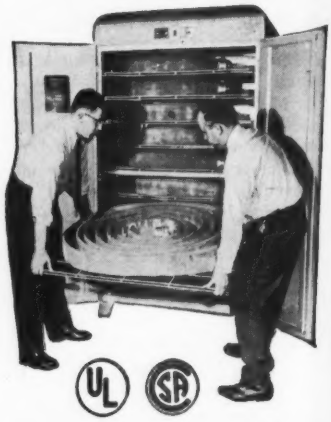

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THIS MONTH'S QUESTIONS

Does your department personnel roster provide for extra men to be used to maintain company strength at a certain level under all foreseeable conditions? If so, what are your general company manpower levels?

In case of illness to individuals, are the temporarily vacant positions filled by extra men?

Are provisions made for filling temporarily vacant positions during vacations?

How are company officers substituted for during illness, injury or vacation periods?

In the event of serious manpower depletion by illness or injury, do department regulations require that normally off-duty personnel work extra time?

platoon strength for the 14-day cycle will be five members for four days, and four members for ten days.

Unproductive period consists of: injury, illness, death or illness in immediate family, jury service and military leave (15 days annually). However, vacation leave is productive as we have vacation relief members.

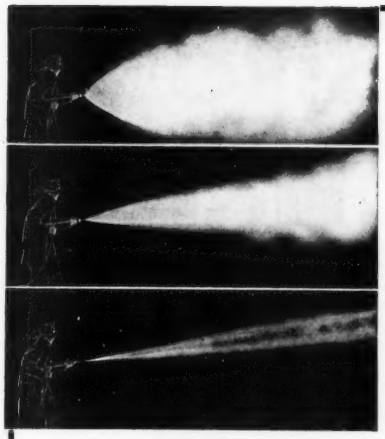
The 60-hour work week schedule was enacted at the last session of the Texas Legislature and provides that no fireman shall be required or permitted to work over 60 hours in any one week, unless paid on the basis of time and one-half per hour.

However, we have asked in the 1959-1960 budget for a squad car for the high-value district, which will give us a nucleus of manpower for this area on first-alarm response.

As the fire fighting division of the department is a mobile unit and because it is flexible, transfers of members through action of the district chiefs is now occurring each day and will continue to occur under the present work week schedule, in order to equalize the distribution of manpower.

Basically, the department is set up on a four-man company. I know as well as any fire chief or fire engineer that this type of manning is inadequate but the State Legislature has practically priced us out of business on the shorter work week.

Dan F. Vogel, Chief, Cincinnati, Ohio: Extra manpower is provided to maintain company strength. However, exactly the same strength is not maintained "under all foreseeable conditions." Heavy sick and injured loads and normal loss through retirement, resignation, etc.,



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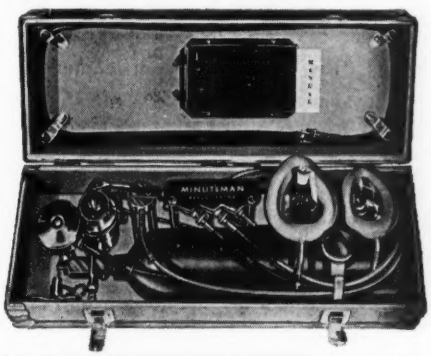

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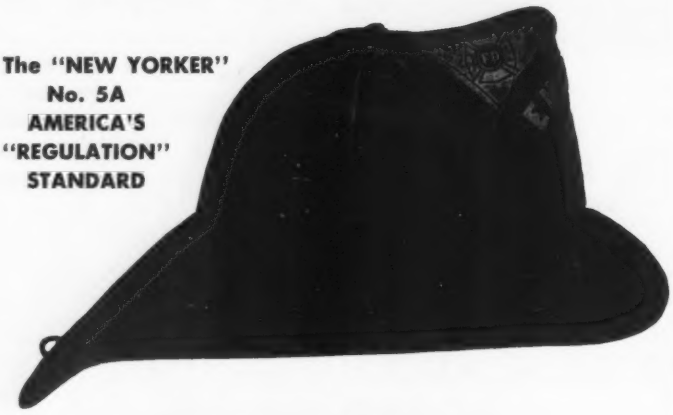

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that builds to 15 to 25 vacancies between recruit classes, must be absorbed without additional personnel.

We refer to company strength as the total manpower assigned to the company as follows: One piece engine companies —13 man company—4-4-5 man units; Two piece engine companies—19 man company—6-6-7 man units; Truck companies—13 and 19-man companies.

The unit with the extra man on each company is so arranged within the battalion that the total battalion strength is the same on all three units. Unassigned men of various ranks in each battalion permit us to maintain a good percentage of companies running with five and six men. However, there are periods when the mentioned factors cause numerous companies to run with four men, and occasionally some have only three on duty.

In case of illness to individuals, temporarily vacant positions are filled by extra men, but there is a limit on the reserve for this.

Vacation quotas are established for each battalion and the vacation schedules must be arranged to have unassigned men of equal rank in a vacation leave.

Vacation leaves account for most of the time of the promoted unassigned men. When not needed for vacations, they are used in other leaves or vacancies. Men of lower rank are occasionally used to fill a vacancy or leave for short periods but long leaves and vacancies are usually filled within 30 days and the manpower shortage develops in the fire fighter's rank. At full strength, there are from four to six extra unassigned fire fighters in each battalion over that needed for vacation leaves. These are used to add to the short (four or five-man) units and other leave vacancies.

Off-duty men have only been used in the severe shortages during the war and at certain flood levels. Ohio State law gives the fire chief the power to suspend off-time in emergencies. This is also written into our regulations.

John H. Krusenklaus, Chief, Louisville, Ky.: In 1952, the work week of this department was reduced from 84 hours per week to 72 hours per week (2 platoon system—24 hours on duty and 24 hours off duty). This necessitated the hiring of 62 additional department members, in order to build up the quota of department companies where necessary, to allow each member one day off from duty every 14 days.

In conjunction with, and included in the hiring of the 62 members, it was also necessary to raise the department quota of officers. Eleven officers—eight lieutenants and three captains—were added to the quota and placed in an officer pool for the express purpose of filling in for, or relieving, company officers who would be absent from duty on their regularly scheduled one day off every 14 days.

The additional 62 men cannot be considered extra men as they are full-time, salaried employees, who work the same 72 hour week worked by all department company members. However, since these

men were employed to build up company quotas, in order to initiate the 72 hour work week, it could be considered that their primary function would be to maintain company strength at a certain level.

Our company manpower levels are as follows: Single-engine pumper company: Maximum quota (entire company)—10 men, two officers; maximum number of men on duty—five men; minimum number of men on duty—four men. Two-piece engine (pumper) company (high-value district): Maximum quota (entire company)—16 men, two officers; maximum number of men on duty—eight men; minimum number of men on duty—six men. Quad company (combination ladder, pumper): Maximum quota (entire company)—16 men, two officers; maximum number of men on duty—eight men; minimum number of men on duty—six men. Aerial ladder trucks: Maximum quota (entire company)—16 men, two officers; maximum number of men on duty—eight men; minimum number of men on duty—six men.

Should an illness suffered by the individual cause the available company manpower to fall below our set minimum quota, an on-duty member from another company (with sufficient manpower to allow it) would be assigned to fill the temporary vacancy on a detailed basis.

Our vacations are scheduled on an entire calendar year basis and are so designed that not more than 15 department company members from each platoon may be off duty, on vacation at the same time. This insures the availability of sufficient departmental manpower to fill these vacancies with members from companies with no members on vacation.

If a member of his company is considered capable of doing so, he is placed in charge of the company, or an officer from another company may be detailed to fill the vacancy should conditions warrant, or a member from another company may be detailed to take charge of the company, should no company member considered capable of doing so, be available.

We have never experienced a manpower shortage due to illness or injury of such serious proportions as to necessitate the calling to duty off-duty personnel. However, our department policy provides that the chief of department, or his duly authorized representative, may suspend all off-time, or call back to duty all off-duty personnel in the event of extreme emergencies, such as: Multiple alarm fires, wind storms, floods, or any emergency that, in his opinion, would indicate that he do so.

Howard Dey, Chief, New Orleans, La.: Our department roster does not provide for extra men to be used to maintain company strength; men are detailed from full companies to make up shortages due to illness, vacation, etc.

Each company has two officers on each platoon, a captain and lieutenant. If necessary, an officer would be detailed from a full company to act as a fill-in.

In extreme emergency, off-duty personnel can be recalled.

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What's Burning

THE FOLLOWING LIST includes fires of $10,000 and over in the United States and Canada for the period from April 20th to May 17.

Attalla, Ala.—Attalla Pipe & Foundry Co. plant severely damaged. Spark from welder's torch fell into vat of flammable material.
Grayson, Ala.—Clancy Lumber Co. sawmill destroyed. Sparks from fire pit.
Montgomery, Ala—Fabrics, Inc. warehouse virtually destroyed. Welder's torch.
Anchorage, Alaska—Spenard Apartments destroyed. Welder's torch.
Ketchikan, Alaska—Marine Hotel and flower shop in building destroyed; six other establishments damaged.
Phoenix, Ariz—Maryvale Shopping Center, housing Deal's Hardware & Variety Store, 27th Avenue Liquor Store, Maryvale Clinic, Jim Hanry's Barber & Beauty Shop, Ralph Collins' Radio and TV Repair Service and Otho Greenway's Drugstore, damaged.
Phoenix, Ariz.—Jones' Custom Upholstery Shop and Cheshire Motor Co. body shop destroyed.
Bentonville, Ark.—Western By-Products Feather Processing Co. destroyed.
Boulder Creek, Calif.—Brown School destroyed.
Los Angeles, Calif.—Dwelling of actress Merle Oberon damaged.
San Francisco, Calif.—Dwelling of Dr. Elizabeth Hicks and two adjoining dwellings damaged.
San Francisco, Calif.—Leo's Auto Repair damaged.
San Francisco, Calif.—Apartment dwelling damaged. Careless smoking.
San Mateo, Calif.—San Mateo School District warehouse destroyed.
Groton, Conn.—Robert Hall Clothing Store building destroyed.
New Haven, Conn.—Columbus Plaza Auto Sales showroom and garage damaged.
Stamford, Conn.—Astoria Hotel badly damaged.
Newark, Del.—Newark Pharmacy, W. V. Nield & Sons appliance repair shop and pool hall of Charles Walters, destroyed.
Jacksonville, Fla.—Atlantic Mills Variety Store damaged. Faulty electrical panel.
Sarasota, Fla.—Sarasota Hardware Co., Ginny's Fabrics and Alpine Restaurant, damaged.
Atlanta, Ga.—Miss Georgia Dairies, Inc. heavily damaged.
Savannah, Ga.—Beberman Furniture Center damaged.
Smyrna, Ga.—Green Acres Elementary School virtually destroyed. Arson.
Swainsboro, Ga.—Town and Country Furniture Co. store building, housing Empire Loan & Credit Co., destroyed.
Brooklyn, Ill.—Lovejoy Public School damaged. Arson and vandalism.
Lincoln, Ill.—Lincoln Transfer Co. warehouse badly damaged.
Olney, Ill.—Sharon Evangelical and Reformed Church destroyed.
Pinckneyville, Ill.—Mary Magdalen Roman Catholic Church rectory destroyed.
Franklin, Ind.—Pete's Drug Store destroyed.
Kokomo, Ind.—Moose Lodge damaged. Careless smoking.
Scottsburg, Ind.—First Baptist Church destroyed.
Everly, Iowa—Hunting Elevator Co. grain elevator destroyed.
Lewis, Iowa—Lewis Public School building destroyed.
Bowling Green, Ky.—Partially completed new sanctuary of First Christian Church heavily damaged. Arson.
Carrollton, Ky.—Three loaded semi-trailers at Western Pipe Line Co.'s store yard, damaged.
Frankfort, Ky.—Bell Gymnasium on campus of Kentucky State College destroyed. Arson
New Orleans, La.—Claiborne Hardware & Paint Co. damaged.
Easton, Me.—F. H. Vahlsing Inc. potato storage house destroyed.
Lewiston, Me.—J. W. White Co. warehouse occupied by Max Miller & Co., destroyed; apartment dwelling at Cross and Oxfords Streets damaged. Eight-year-old with cigarette and matches.
Portland, Me.—Two buildings and 24 boats at Crandall's Boat Shop and adjoining building

of Bernstein & Jacobson, marine dealers, destroyed.

Baltimore, Md.—Warehouse occupied by Vin-Del Used Cars, heavily damaged.

Baltimore, Md.—Howard Johnson Restaurant, 5800 block Pulaski highway, heavily damaged.

Boyds, Md.—Dairy barn on J. B. Maughlin farm destroyed.

Cantonsville, Md.—Former summer camp biulding destroyed.

Orchard Beach, Md.—Stoney Creek Shopping Center heavily damaged.

Silver Spring, Md.—Sunday school section of Woodside Methodist Church extensively damaged.

Tarrytown, Md.—Storage building of Cambridge Rubber Co. destroyed.

Attleboro, Mass.—Building housing seven firms, restaurant, meeting hall and apartments, damaged.

Billerica, Mass.—Sandberg Potato Chip plant, newly constructed after April fire, destroyed.

Boston, Mass.—Cornetts & Son box factory damaged.

Chelsea, Mass.—William Rubenstein Co. mattress firm damaged.

Fall River, Mass.—Coal storage pocket at A. M. Demers Coal Co. extensively damaged.

Gilbertville, Mass.—Combination bakery-dwelling of Stanley Lukaskiewicz heavily damaged.

Holyoke, Mass.—Valley Arena destroyed.

Malden, Mass.—Lincoln Jr. High School and Elementary School damaged.

North Adams, Mass.—Masonic Temple badly damaged.

Somerville, Mass.—Handy Paper Card Co. damaged.

Winchester, Mass.—Business block, housing Fashion Cleaners, Winchester Paint & Hardware Store, Robert's Beauty Salon, Ryco Laundermat, barber shop and Purtle's Pharmacy, destroyed.

Grand Rapids, Mich.—United States Molded Shapes Inc., subsidiary of Wagemaker Co., destroyed.

Highland Park, Mich.—Barney's Restaurant and building housing Federal Fire Adjusters and Federal Contracting Co. destroyed.

Mt. Clemens, Mich.—St. Clair Metal Products Co. damaged.

Saugatuck, Mich.—Pavilion dance hall on Kalamazoo River and cottages across the river destroyed; Saugatuck Hotel damaged.

Zeeland, Mich.—Witt's Zeeland Hatchery destroyed.

LaRussell, Mo.—Three buildings, housing general store, locker plant, farm and feed store, post office and medical offices, destroyed.

St. Louis, Mo.—Radio Station KCFM destroyed; nearby National Food Store and Toddle House Restaurant damaged.

Sedalia, Mo.—Downtown business building, housing Gla-Da-Mo Co., clothing repair and sales shop and The Shoe Box, shoe store, damaged.

Valley Park, Mo.—American Brokerage Co. building destroyed.

Derry, N. H.—Chelmsford Shoe Co. factory, two apartment dwellings and nearly 20 dwellings, destroyed.

Manchester, N. H.—Manchester Health Studios, Fletcher's Factory Paint Outlet, Spotless Cleaners and New Hampshire Buyer's Service, damaged considerably.

Rye Beach, N. H.—One-hundred-year-old Ocean Wave Hotel, unoccupied summer resort on Concord Point, destroyed.

Atlantic City, N. J.—Charlotte Apartments and Freedman Shoe Store damaged.

Hackensack, N. J.—Oppenheim Collins store practically destroyed.

Middletown, N. J.—Adler Screen & Lumber Co. and adjoining PAL Discount Shoe Store destroyed.

Newark, N. J.—Kolker Chemical Corp. damaged. Oil heater line exploded.

North Bergen, N. J.—Goodman Castle Furniture Co. building damaged.

Union, N. J.—Highway Bowl, bowling alley, destroyed.

Albany, N. Y.—Carr Packing Co., Inc. offices damaged.

Albany, N. Y.—Pagliaccio Restaurant damaged. Faulty wiring.

Buffalo, N. Y.—Marine Supply Co. and 50 small boats of Collins Marine Supply Co. damaged.

Johnson City, N. Y.—Building housing Parkview Market and apartments destroyed. Defective wiring.

Please turn page

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BALTIMORE SPECIFIED
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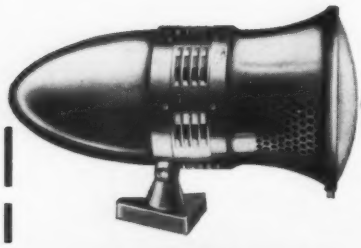

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Monticello, N. Y.—Maplewood Inn resort hotel destroyed.

New Hartford, N. Y.—The Shopping Center, housing Sears, Roebuck & Co., Neisner Bros., Marine-Midland bank and Center Shoe Store, damaged.

Oxford, N. Y.—A & P Supermarket, Place Typewriter Co., Emerson Day Drug Store, Oxford Laundromat, Oxford Style Shop and law offices of Vernon Stratton, destroyed.

Patchogue, L. I., N. Y.—Newly remodeled Felice's Restaurant destroyed.

Wantaugh, L. I., N. Y.—Moby Dick Bowling Alley considerably damaged.

Wells, N. Y.—Office building and adjoining dwelling damaged.

Williamsville, N. Y.—Curry Hall at Methodist Episcopal Church Home for Children destroyed. Defective wiring.

Greensboro, N. C.—Saslow's Jewelry Store and Mengel's Women's Store, damaged.

Winston-Salem, N. C.—Forsyth County Carver School heavily damaged.

Ashtabula, Ohio—Lou Fritz Buick-Cadillac garage damaged.

Canton, Ohio—Drake Hotel damaged.

Cincinnati, Ohio—Hore barn at River Downs Race Track damaged. Arson by two runaway boys.

Columbus, Ohio—Linwood Plastics, Inc. damaged. Defective infra-red dryer machine.

Youngstown, Ohio — Five buildings, housing Dutch Maid Bakery, Penner Furniture Store and Dinner Bell Restaurant, damaged.

Oklahoma City, Okla.—Nearly completed Ramada Inn Motel damaged. Workman overturned kerosene heater.

LaComb, Ore. — LaComb Elementary School damaged.

Portland, Ore. — Jolly Joan Cafe damaged. Welder's torch.

Tillamook, Ore.—Diamond Lumber Co. truck maintenance shop destroyed.

Bristol, Pa.—Drumm Co. plant damaged.

Chester, Pa.—Sixteen stores and apartments on Morton Avenue damaged. Exploding fuel oil tanks.

Chester, Pa.—Wolf Merchandise Co. building heavily damaged.

Halstead, Pa.—Barn on George Richardson's farm destroyed.

Hanover, Pa.—Hanover Pretzel Co. factory destroyed.

Herminie, Pa.—Two-story building, housing Peter Abatel's interior decorating firm and apartments, destroyed.

New Holland, Pa.—Lancaster County Farm Bureau Cooperative Association feed mill damaged.

Philadelphia, Pa.—Market Street building, housing Bedrooms, Inc., damaged.

Philadelphia, Pa.—New Hope Baptist Church destroyed.

Philadelphia, Pa.—Dwellings of Mrs. Virginia Lilly, Mrs. Katie Freeman and Mrs. Clara Lightfoot, destroyed. Arson.

Philadelphia, Pa. — Abandoned coal yard at 62nd Street, owned by Eastwick Redevelopment Authority, heavily damaged. Explosion.

Philadelphia, Pa.—Dwellings of Joseph Cohen, Harry Gregg and Stanley Duch, damaged.

Reading, Pa.—Elm and Moss Streets Elementary School destroyed. Arson suspected.

Scranton, Pa.—Obrana Press Co. damaged.

Shady Grove, Pa.—Four buildings at plant of Grove Mfg. Co. destroyed. Spark from grinding engine ignited tank of paint.

Wilkes-Barre, Pa.—Building housing Royal Footwear Co. destroyed. Propane tank explosion.

Williamsport, Pa.—Reese Building Supplies Inc. building damaged. Short circuit.

Bristol, R. I.—M. Luiz Sausage building damaged.

Providence, R. I.—Elgin Chemist Shop, Peter Saslaw tailor shop and Elgin Market, damaged.

Providence, R. I.—Vacant buisness-apartment building at 25 Beacon Ave. and business-apartment building, housing Tolchinsky's Furriers, considerable damaged.

Warren, R. I.—Warren Oyster Co. building, housing Allen Distributing, Inc., boat sellers, badly damaged.

Denmark, S. C.—Seaboard Air Line Railway Station and three nearby trucks destroyed.

Spartanburg, S. C.—Main St. building, housing WSPA and WSPA-TV Studios of Spartan Broadcasting Co. damaged.

Walterboro, S. C.—F. W. Harrison & Son basket plant destroyed.

Lewisburg, Tenn.—Seventy-three-year-old Rutledge Inn destroyed.

Martin, Tenn.—Vowell & Sons Lumber Co. destroyed.
Memphis, Tenn.—Hydrogen peroxide unit of E. I. du Pont de Nemours Corp. heavily damaged.
Morristown, Tenn.—National Guard Armory damaged. Faulty wiring.
Nashville, Tenn.—O'Neal's wholesale Florist Co. and Adjax Supply Co. damaged.
Sewanee, Tenn. — Magnolia Hall, classroom building and auditorium half mile away at University of the South destroyed. Possible arson.
Dallas, Tex.—Neal's Supermarket and nearby dwelling heavily damaged. Explosion.
Freeport, Tex.—Dow Chemical Co.'s glycerin production unit considerably damaged. Series of explosions.
Harleton, Tex.—Hunt Oil Co. gasoline plant heavily damaged.
St. Johnsbury, Vt.—Warehouses of Rodd the Roofer, Vermont Salvage Corp. and Perkins Street sheds, considerably damaged.
Danville, Va.—Dwellings of Mrs. Henry Swanson and Mrs. James Penn damaged. Gas furnace explosion.
South Norfolk, Va.—Swift & Co.'s fertilizer plant destroyed.
Everett, Wash.—Super Shingle Co. destroyed.
Everett, Wash.—Weyerhaeuer Co. sulphite mill damaged. Explosion.
Olympia, Wash.—Olympia Feed Co. destroyed.
Spokane, Wash.—Cloud's Valley Skateland destroyed. Arson reported.
Vancouver, Wash.—LaCenter High School destroyed. Explosion.
Charleston, W. Va.—Arcade Building, housing Arcade Tobacco Shop & Poolroom, Arcade Newstand, Kanawha Banking & Trust Co., The Fashion Shop, Blacko Medicine Co., Arcade Beauty Shop, Hall's Watch Shop, Vaughn's Watch & Clock Shop and offices, damaged.
South Charleston, W. Va.—Taylor Bros. Shoe Store and two nearby businesses damaged.
Williamson, W. Va.—State Road Commission garage-shop-office building destroyed.
Sheboygan Falls, Wis.—Great Lakes Home Builders Co., prefabricated home plant, extensively damaged. One of five fires believed started by arsonists.
Milwaukee, Wis.—The Downing Box Co.'s plastic coating machine damaged.
New London, Wis.—Wolf River Products Co. virtually destroyed.
West Bend, Wis.—West Bend Canning Co. plant and storage buildings damaged.
Sarnia, Ont.—Several downtown stores, including women's clothing store, damaged.
Montreal, Que.—Apartment block at 2460 Bourbonniere Street, considerably damaged.
Montreal, Que.—Cinema de Paris damaged. Explosion.
Montreal, Que.—Dr. Ambra School for Retarded Children destroyed.
Montreal, Que.—Jean Hebert Hardware Store, Hollywood Men's Shop and apartments at 1115 and 1119 Mount Royal Avenue East, badly damaged.
Montreal, Que.—Montreal Terracotta Co. badly damaged. □□

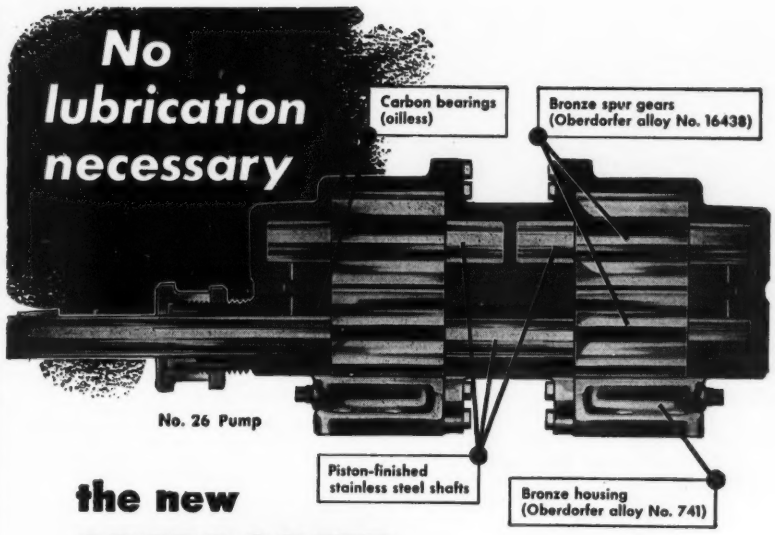
April Fire Losses

Estimated fire losses in the United States during April amounted to $98,106,000, the National Board of Fire Underwriters has reported.

According to Lewis A. Vincent, NBFU's general manager, this $98,106,000 loss represents an increase of 8.2 per cent over losses of $90,689,000 reported for April 1959, and a decrease of 15.7 per cent from losses of $116,365,000 for last March.

Losses for the first four months of 1960 now total $404,202,000, an increase of 0.7 per cent over the first four months of 1959, when they amounted to $401,402,000.

These estimated losses include an allowance for uninsured and unreported losses.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Carbon bearings (oilless)
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No. 26 Pump
Piston-finished stainless steel shafts
Bronze housing (Oberdorfer alloy No. 741)

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OBERDORFER BRONZE BOOSTER PUMPS

These booster pumps with oilless bearings will last 3 to 5 times longer than the old style equipped with plain bronze bearings. As a result of closer machining tolerances, over 20 feet of suction lift may be depended on.

The No. 13 and No. 26 Oberdorfer Pumps are more fool-proof than they have ever been. When you get to a fire you have something you can count on. It isn't necessary to wear pumps out checking them periodically to see if they will work. These pumps are metering pumps in principle and therefore must produce the same volume for every revolution of the drive shaft.

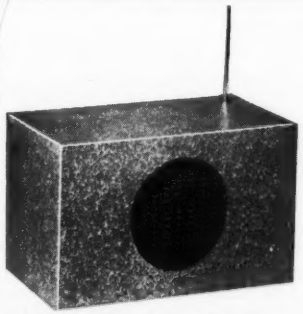
PERFORMANCE DATA—No. 26 and No. 13 PUMPS

Pump No.	Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
26	1600	120	500'—1½"	20'	150
13	1600	120	500'—1½"	20'	75

LIST PRICES — No. 26 — $249.50 No. 13 — $122.50

Slightly higher west of Rockies

FIRE PUMP DIVISION, Oberdorfer Foundries, Inc., Syracuse, N. Y.



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Coming Events

June 19-21—South Carolina State Firemen's Association. Annual meeting, Poinsette Hotel, Greenville, S. C. Secretary-Treasurer, David H. Gillam, Jr., Orangeburg, S. C.

June 19-22—Campus Safety Association. Annual meeting, Cornell University, Ithaca, N. Y. For information, write Daniel P. Webster, Staff Representative, Higher Education Section, National Safety Council, 425 North Michigan Avenue, Chicago 11, Ill.

June 20-23—New England Association of Fire Chiefs. Annual meeting, Wentworth by the Sea, Portsmouth, N. H. Secretary-Treasurer, Chief Albert W. Kimball, 25 Leavitt Street, Hingham, Mass.

June 22-25—International Fire Buff Associates, Inc. Annual meeting, Chester, Pa. Secretary, Robert B. Wren, 3430 Saybrook Avenue, Cincinnati 8, Ohio.

June 23-25—Six County Firemen's Association. Annual meeting, festival and parade, Milton, Pa. Chairman, Owen C. Ranck, 112 Broadway, Milton, Pa.

June 27-29—Missouri Valley Association of Fire Chiefs. Annual meeting, Des Moines, Iowa. Secretary-Treasurer, Chief Paul A. Soener, Independence, Iowa.

July 2-3—Oklahoma State University School of Fire Protection reunion, Stillwater, Okla. For information contact, Assistant Chief W. C. Buck, Campus Fire Station, Stillwater.

July 4—Freeport Fire Department annual parade, firemanic show and fireworks, Municipal Stadium, Freeport, L. I., N. Y. For information, write Harry A. O'Rourke, Secretary, 47 Rutland Road, Freeport, N. Y.

July 11-12—Michigan State Fire Chiefs Association. Saginaw, Mich. Secretary, Chief Edward F. Klecka, Jr., 1102 Ruddiman Avenue, North Muskegon, Mich.

Aug. 19-21—Connecticut State Firemen's Association. Annual convention and parade, New London, Conn. For information write the New London Firemen's Association, Convention Committee, Inc., P. O. Box 811, New London, Conn.

Aug. 25-27—Westchester County Volunteer Firemen's Association. Annual meeting, Ossining, N. Y. For information contact William Johnson, Co-Chairman, Box 334, Ossining, N. Y.

Aug. 28-30—New York State Permanent Firemen's Association. Annual meeting, Tonawanda, N. Y. Secretary-Treasurer, Robert E. Mills, 420 Plymouth Drive, Syracuse 6, N. Y.

Aug. 28-Sept. 3—International Association of Fire Fighters. Annual meeting, Buffalo, N. Y. Secretary-Treasurer, John C. Kabachus, AFL-CIO Building, 815 Sixteenth Street, N. W., Washington 6, D. C.

Sept. 12-15—International Association of Fire Chiefs. Annual meeting, Hotel Manger Seneca, Rochester, N. Y. Secretary-Manager, B. Richter Townsend, 232 Madison Avenue, New York 16, N. Y.

September 15—Delaware Fire Chiefs Association. Semiannual meeting, Bridgeville, Dela. Secretary, Howell H. Barnes, Smyrna, Dela.

Sept. 16-17—Delaware Volunteer Firemen's Association. Annual meeting, Bridgeville, Dela. Secretary, E. Reynolds Bradley, Smyrna, Dela.

Sept. 19-22 — Canadian Association of Fire Chiefs. Annual meeting, Calgary, Alberta. Secretary-Treasurer, Chief Allan H. Clark, Fire Headquarters, Lakefield, Ont.

Sept. 19-22—International Municipal Signal Association. Annual meeting, New York, N. Y.

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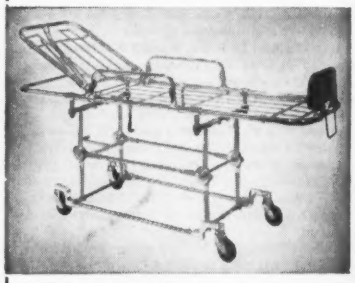

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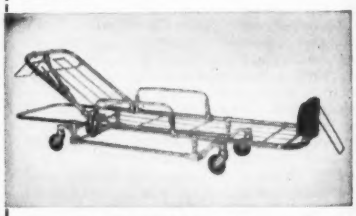
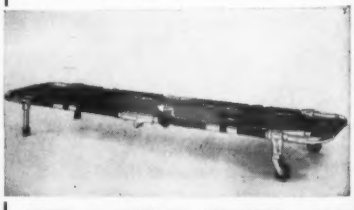


MODEL 21-L LOW COT—Only 8¼" high! A really low cot for cars with less head room or with overhanging stretchers. Another Washington EXCLUSIVE design, to meet changing car conditions.



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Secretary, Irvin Shulsinger, 130 West 42nd Street, New York 36, N. Y.

Sept. 20-21—Iowa Firemen's Association. Annual meeting, Guthrie Center, Ia. Secretary, A. B. Arnold, c/o Fire Department, Mason City, Iowa.

Sept. 25-28—Pacific Coast Inter-Mountain Association of Fire Chiefs. Annual meeting, Las Vegas, Nev. Secretary-Treasurer, S. E. Edmundson, 1248 Marengo St., Pasadena, Calif.

Sept. 27-30—Michigan Fire Inspector's Conference. Annual meeting, Michigan State University Kellogg Center, East Lansing, Mich. Secretary, Arthur Patriarche, 550 Gunson Street, East Lansing, Mich.

Oct. 17-21—National Safety Congress. Annual meeting, Chicago, Ill. Further information may be obtained from R. L. Forney, secretary, National Safety Council, 425 North Michigan Avenue, Chicago 11, Ill.

Oct. 31-Nov. 2—Illinois Firemen's Association. Annual meeting, Springfield, Ill. Secretary, R. W. Alsip, Box 8, Champaign, Ill.

Nov. 3-5—International Rescue and First Aid Association. Annual meeting, Benjamin Franklin Hotel, Philadelphia, Pa. For further information, contact the Executive Office, 314 King Street, Alexandria, Va. □□

FIRE COLLEGES

Arizona State Fire School—Oct. 20-22, Phoenix, Ariz. For information write Chief Jake Siken, Supervisor of Training, Phoenix Fire Department.

Civil Defense Instructor Training Course for Eastern Area—June 20-24; June 27-July 1, **Basic Civil Defense for Instructors; Principles of Organization and Staffing;** June 20-24, **Radiological Monitoring for Instructors;** All sessions will be held at the Eastern Instructor Training Center, Office of Civil Defense Mobilization, Brooklyn 35, N. Y. For information contact the Center at the above address.

Florida State Fire College—Aug. 8-12, **Seminar in Arson Investigation and Detection.** Sept. 5-9, **Units 101,** Tools, Forcible Entry, Breathing Apparatus, Extinguishers; **106,** Fire Inspection; **201,** Instructor Training, Sept. 12-16, **Units 102,** Hose and Ladders; **202,** Company Officer Training; **206,** Fire Prevention and Protection. Sept. 19-23, **Units 103,** Rescue, Ventilation, Salvage and Overhaul; **105,** Fire Apparatus and Pumps; **204,** Fire Fighting Tactics, Sept. 26-30, **Units 104,** Fire Streams; **107,** Arson Detection; **208,** Fire Department Administration. For information contact Florida State Fire College, P. O. Box 785, Ocala, Fla.

Indiana Fire Training Program—Sept. 14-17, Annual Indiana State Fire School; Oct. 25-27, Fire Inspectors Course. All courses will be held at Purdue University, Lafayette. For information, write Professor Shelby Gallien, Director, Public Safety Institute, Purdue University, Lafayette, Ind.

Maryland Fire Service Training Program—Pump School Series: Seagrave Pumps. Aug. 1-3, **Aerial Ladder Short Course.** Aug. 9-10, **Governor's Conference on Fire Prevention;** Sept. 6-9, **Short Course for Firemen.** All courses to be held at Fire Service Extension Building, University of Maryland. For information, write, Robert C. Byrus, Director, P. O. Box 85, College Park, Md.

Monroe County Fire School—Sept. 17-18, Coolbaugh Township, Tobyhanna, Pa. For information contact James H. Oakey, Director, Box 67, Tobyhanna, Pa.

Morris County Fire School—July 5, Norristown Fire Headquarters; Aug. 2, Whippany Fire Headquarters; Sept. 6, Budd Lake Fire Headquarters. For information, write Robert

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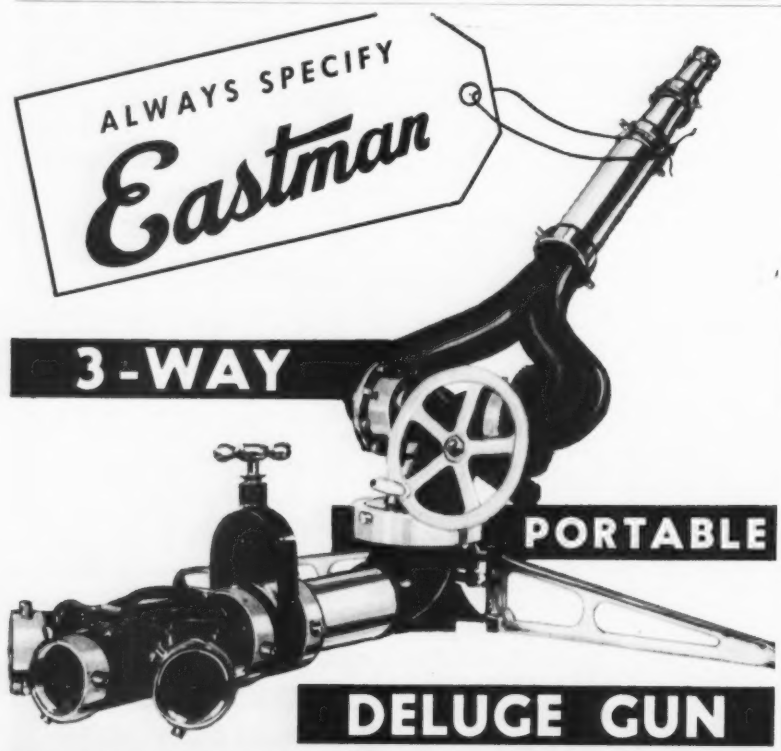

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H. Wright, Publicity Chairman, Long Hill Lane, Chatham, N. J.

Ohio State Fire School—Sept. 12-16, the Ohio State University, Columbus, Ohio. For information write The Trade and Industrial Education Services, 118 Townsend Hall, The Ohio State University, Columbus 10.

Ontario Fire College—June 20-24, **Wellington County Regional Fire School;** July 11-15, **Basic Fire Inspection Practices Course;** July 18-22, **Sudbury District Regional Fire School,** Sudbury; July 25-29, **Pump Course;** Aug. 8-12, **Fire Department Instructors' Course, Part I;** Aug. 15-26, **Fire Department Instructors' Course, Part II,** Aug. 9-Sept. 2, **Volunteer Fire Officers' Course, Part I;** Sept. 12-16, **Eastern Ontario District Fire Course;** Sept. 19-23, **Pump Course;** Sept. 26-Oct. 7, **Company Officers' Course;** Oct. 17-21, **Basic Fire Inspection Practices Course;** Oct. 24-28. **Mutual Fire Aid Forum—County Fire Coordinators.** All courses will be held at the Ontario Fire College at Gravenhurst, Ont. For information, write W. J. Scott, Q.C., Fire Marshal, Province of Ontario, 210 Huron Street, Toronto 5.

Pennsylvania State Firemen's Training School—June 20-24, **Basic Fire Fighting;** June 27-July 1, **Ladders, Rescue, Salvage;** July 11-15, **Advanced Fire Fighting;** July 25-29, **Fire Department Pump School;** Aug. 1-5, **Basic Fire Fighting;** Aug. 15-19, **22nd Annual Pennsylvania State Fire School;** Aug. 20. **Instructors Conference;** Aug. 22-26, **Ladders, Rescue, Salvage;** Aug. 29-Sept. 2, **Advanced Fire Fighting;** Sept. 12-16, **Fire Department Pump School;** Sept. 26-30, **Basic Fire Fighting;** Oct. 3-7, **Advanced Fire Fighting;** Oct. 17-21, **Basic Fire Fighting;** Oct. 31-Nov.4, **Advanced Fire Fighting;** Nov. 14-18, **Fire Department Pump School.** All courses to be held at the State Training School, Lewistown, Pa. For information contact Art Espey, Director, Box 631, Lewistown.

South Boston, Va., Fire School—Aug. 22-26. For information, write R. Lawrence Oliver, Director of School, State Department of Education, P. O. Box 654, Harrisonburg, Va.

Southern Wisconsin and Northern Illinois Fire School — Sept. 18, Green County Fair Grounds, Monroe, Wis. For further information, Herman Pfund, Secretary, Southern Wisconsin and Northern Illinois Firemen's Association, New Glarus, Wis.

Suffolk County Field Conference—September 25, Civil Defense and Firematic Training Center, Yaphank, L. I., N. Y. For information, contact Chief Harold Hochheiser, Secretary, Fire Chiefs' Council of Suffolk County, Riverhead, L. I.

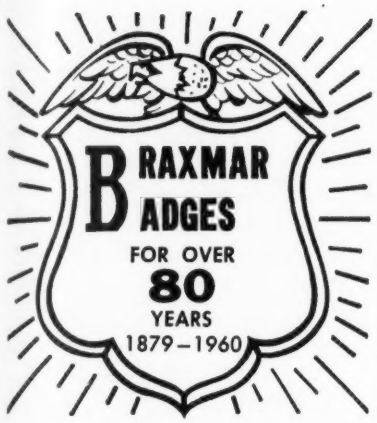
Tri-State Fire School—Aug. 22-26, **Fire School;** Nov. 15-18, **Instructors School for Company Officers,** Huntington, West Va. For information, write R. M. Myers, Secretary-Treasurer, Tri-State Fire School Association, 816 Ninth Street, Huntington.

Williamsburg Fire College—June 20-24, College of William and Mary, Williamsburg, Va. Director, Chief Elliott W. Jayne, Fire Headquarters, Williamsburg. □□

L. A. Adopts Master Fire Station Plan

The Los Angeles City Council has accepted a master plan outlining the sites for 45 future fire stations. The plan was submitted by Robert A. Day, president of the board of fire commissioners, and received the approval of the council's planning committee. Commissioner Day's plan outlines the probable needs for new stations as Los Angeles continues to experience its rapid rate of growth during the next years.

Paul C. Ditzel



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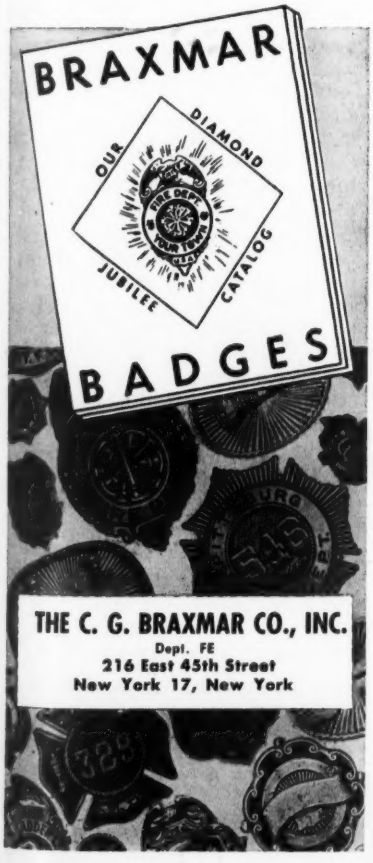

AIRPORT FIRE PROTECTION

Continued from page 513

maneuverable ramp which will speed out on the field and draw up to disabled airliners to evacuate passengers and crew from doorways or other exists while crash operations are in progress.

Also under consideration is a replacement squad and rescue rig for the apparatus presently in service. Too, there is a possibility that Squad 80 will be rebuilt and converted into a capability of carrying 1,000 pounds of dry chemical and more carbon dioxide. Also under discussion is a new 3½-inch hose carrier. Future plans also envision a duplicate of Crash and Tank 80 to be housed at Fire Station No. 95 and provision for a third fire station to be located at the far west end of the field.

Although Fire Station No. 80 is one of the Los Angeles Fire Department's busiest—it averages between 50 and 60 responses a month—the crash crews count themselves fortunate that the nation's second busiest air terminus has never been the dateline for catastrophe as have all other major terminals in the country. Unlike more conventional fire stations, however, the crews have yet to log their first false alarm. □□

RESUSCITATION ADVANCES

Continued from page 486

tation ever be delayed a split second for any such reason or question.

To meet this situation there have appeared on the market many devices categorized as "mouth-to-mask," "mouth-to-tube," or small, light hand resuscitators. Without going into a discussion of airborne or droplet transmission of disease, it would seem that any device not involving use of the operator's mouth would be the most satisfactory. Next in order would be the "mouth-to-mask" or "mouth-to-tube" device. Certainly rescue organizations whose activity automatically projects them frequently into resuscitation problems would do well to equip themselves with devices, provided personnel are well trained in their use and do not substitute these resuscitators for basic first-aid training.

For the general public who have undertaken the praiseworthy responsibility of learning and carrying out first aid, when faced with a situation requiring mouth-to-mouth resuscitation, they should begin work at once with no hesitation — gaining solace from "there but for the grace of God might be I."

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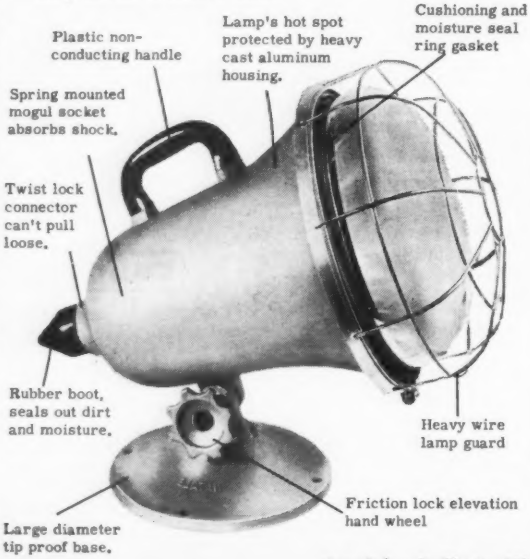
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ual methods, resuscitative equipment manufacturers have also been busy over the past few years. Realizing that the conventional suitcase variety of resuscitators were not to be "taken lightly" (pun intended), many of the producers have designed and are now featuring compact, light resuscitative units which allow much more freedom of use than the larger models. This is in keeping with the growing philosophy of bringing aid to the victim rather than bringing the victim to the aid. Such light equipment does not necessarily supplant the need for the "suitcase" variety of equipment, but merely gives broader coverage by rescue and fire organizations.

Something of fairly new design in the resuscitator field is the "hand-squeeze" type. Based on the knowledge that the majority of nonbreathing emergencies respond adequately to the efficient movement of ordinary air, these sponge-filled rubber-covered-bag, valve-and-face-mask combinations have been shown to move large quantities of air in and out of the nonbreathing victim. Their virtue seems to lie in light weight, ease and efficiency of operation and low cost.

Of interest is the entrance of electronics into the field of resuscitation. It will take some time to properly evaluate the potential of this principle. However, when one considers the assistance electronics have given to heart surgery, it would seem worthwhile to keep the idea in mind.

In general, resuscitative methods and equipment have kept abreast of the time. In doing so, a few basic truths still apply. No short cut has been found for good, sound first-aid training. The use of resuscitative devices does not preclude a sound knowledge and practice in the administration of manual methods. In line with this thinking, resuscitative equipment must be viewed as an adjunct to immediate resuscitation begun on the spot with no other equipment than hand and "know how." With this basic premise the advances in equipment can be used to tremendous advantage by the now busier-than-ever rescue unit. □□

Fire Captain Killed Answering False Alarm

A false alarm cost Captain Robert W. Parrahm, 39, of the Denver, Colo., Fire Department his life on March 20. Seven other persons were injured when a hose wagon collided with a passenger car while responding to the alarm. The captain suffered head and chest injuries when he was pinned between the overturned apparatus and the car.

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Persons in the News

Waidelick Heads Newark

Fred Waidelick, veteran Newark, N. J., fire fighter was appointed chief engineer of the Newark Fire Department on April 18. He succeeds Chief Harry Sommers who retired recently.

Chief Waidelick was appointed to the department in 1921 and promoted to captain in 1929. He became a battalion chief in 1946 and was named deputy chief in 1949. With the exception of one year as instructor at the training academy, he has spent his entire career in the fire fighting force.

Switzer Named Dominion Fire Commissioner

R. A. W. Switzer, assistant Dominion fire commissioner, Department of Public Works, since October 1958, was appointed commissioner on May 4. He succeeds C. A. Thomson who recently retired.

Commissioner Switzer began his career in fire prevention with the Royal Canadian Engineers during World War II. Upon his discharge from the army in 1946 he joined the Saskatchewan Fire Prevention Service as an inspector. In 1948 he organized the province's first volunteer

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fire training school and served as chief instructor until his appointment as Saskatchewan deputy fire commissioner in 1949. When appointed Dominion deputy he was fire commissioner of the province.

He is chairman of the Canadian Fire Investigation School, past president of the Association of Canadian Fire Marshals and past chairman, Fire Marshals Association of North America.

Bush Heads NFPA

Loren S. Bush, chief engineer of the Pacific Fire Rating Bureau of San Francisco, was named president of the National Fire Protection Association, at its recent 64th annual conference in Montreal. A veteran of almost 40 years in fire protection, he concluded a four-year term as a vice president of the NFPA following 12 years as a director. He succeeds Henry G. Thomas, National Board of Fire Underwriters consultant and retired chief of the Hartford, Conn., Fire Department.

Other officers named include J. Sharp Queener, manager, Safety and Fire Protection Division, E. I. du Pont de Nemours Co., Wilmington, Del.; first vice president; Warren J. Baker, manager, Technical Department, Insurance Company of North America, Philadelphia, Pa., second vice president; and Hovey T. Freeman of Providence, R. I., president, Manufacturers Mutual Fire Insurance Co., secretary-treasurer.

Re-elected as chairman of the NFPA Board of Directors is T. Seddon Duke, president of the Star Sprinkler Corporation, Philadelphia, Pa.

Named to the Board of Directors for three-year terms were: W. H. Berry, vice president, America Fore Insurance Group, New York, and Paul C. Lamb, safety administrator, Lever Brothers Company, New York. New directors named for a three-year term are: J. R. DeHaven, vice president, Employers Mutual Fire Insurance Co., Wausau, Wis.; George F. Wahl, general manager, Factory Mutual Engineering Division, Norwood, Mass.; and W. M. Wetzel, chairman of the board, The Fyr-Fyter Company, New York. Elected for a one-year term to fill a vacancy on the board is R. H. Ferguson, assistant director of industrial relations, Republic Steel Corporation, Cleveland.

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Obituaries

Chief Roy Rowe

Roy Rowe, 56, chief of the Klamath Falls, Oregon, Fire Department for the past 11 years, died of a heart attack at his home on April 29.

Widely respected in Oregon fire circles, he had been a member of the department for 23 years and was affectionately known as "Mr. Fire Department."

W. J. McAuliffe, NBFU

William J. McAuliffe, 58, special agent for the National Board of Fire Underwriters, died suddenly on May 5 while attending a meeting of the Massachusetts Board of Fire Prevention Regulations.

He had been a NBFU special agent for 31 years working eastern Massachusetts and Rhode Island. He served as a member of the Massachusetts Board of Fire Prevention Regulations for the past 14 years and was secretary at the time of his death.

Ex-Chief W. R. Laursen

Wallace R. Laursen, 52, of Hazlet, N. J., died April 20 at Monmouth Medical Center. He was a former chief of the Matawan, N. J., Fire Department and past president of the Monmouth County Firemen's Association. At the time of his death he was a fire coordinator for the Monmouth County Civil Defense and Disaster Control. *R. W. Holtz*

R. M. Lawless

Richard M. Lawless, 76, oldest salesman for the Bi-Lateral Fire Hose Co., died May 3. "Dick" started with Bi-Lateral in 1909 when the company was formed. He assisted Clay Baird, the founder, in the development of the Bi-Lateral construction and the rocker lug coupling, which was patented by Mr. Baird. At one time, he traveled throughout the United States for the company, but in recent years confined his activities to Illinois.

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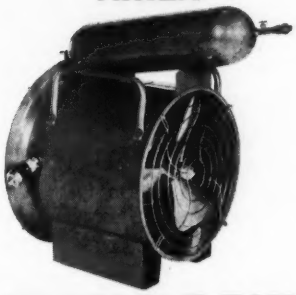

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Continued from page 482

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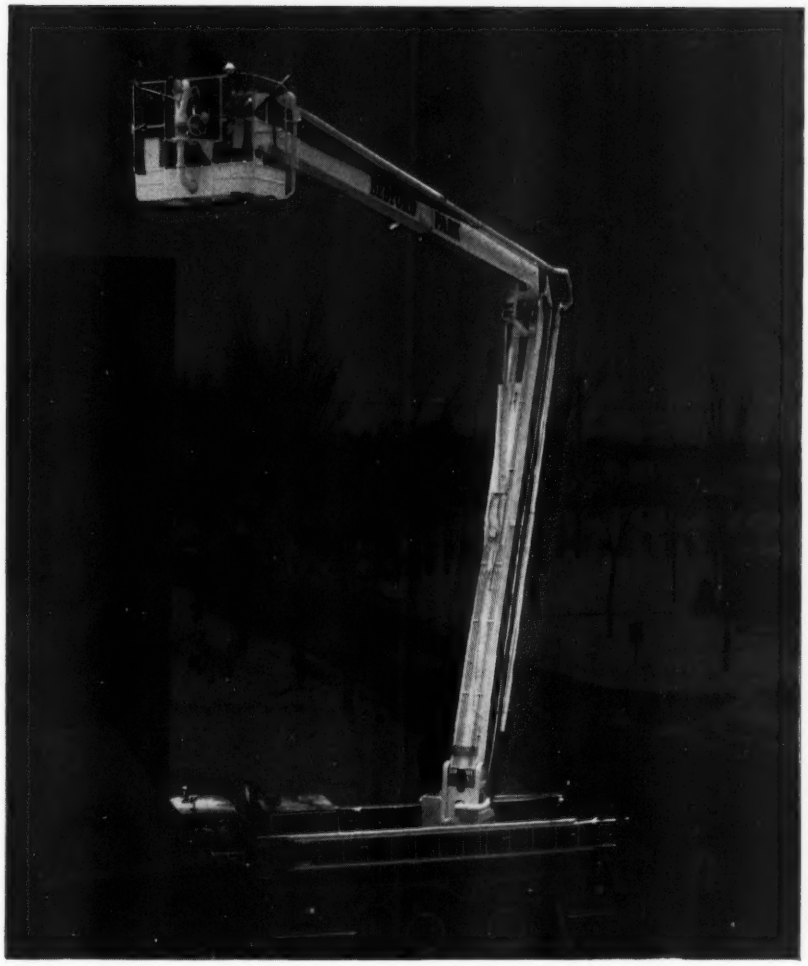
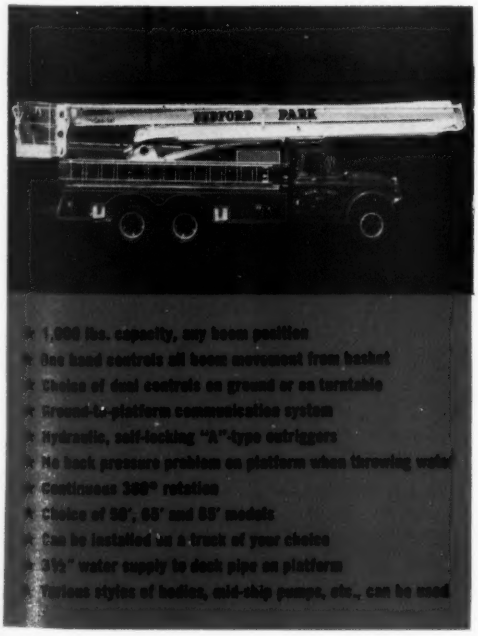
Why the Village of Bedford Park bought this



65-foot PITMAN SNORKEL



- 1,000 lbs. capacity, any boom position
- One hand controls all boom movement from basket
- Choice of dual controls on ground or on turntable
- Ground-to-platform communication system
- Hydraulic, self-locking "A"-type outriggers
- No back pressure problem on platform when throwing water
- Continuous 360° rotation
- Choice of 50', 65' and 85' models
- Can be installed on a truck of your choice
- 2½" water supply to deck pipe on platform
- Various styles of bodies, mid-ship pumps, etc., can be mad

Incorporated in the Village of Bedford Park, Illinois, are a number of major industrial installations. Vast tank farms nearby store everything from benzine to molasses. Chief Gil Husch and his 18-man department have fought fire there – as well as in buildings of four or five stories – under very hazardous conditions.

"We need the reach of that seven-story Snorkel," says Chief Husch. "It puts our men up high – or way back in, over low-rise structures, to lay fog and water right at the source of fire . . . no matter where it is.

"Our men are volunteers, and good ones," Husch asserts, "but they're also my friends and neighbors. I want to make sure they get back in good shape – every time." When Chief Husch saw the Chicago Fire Department's Snorkel No. 1 in action, he knew Bedford Park had to have one as well!

Bedford Park's Snorkel is mounted on a GMC Model W554 chassis, with compartment and ladder body. Chief Husch preferred a tandem truck, though a single axle chassis works equally well. Rather than a full complement of ground ladders, this unit carries a 35-foot 3-section aluminum ladder, a 24-foot 2-section aluminum ladder, and two 16-foot roof ladders. Wheelbase is 176 inches, with an over-all length of 37 feet. Over-all height is under 11 feet, with booms stowed for travel. A Pitman Snorkel – 50, 65 or 85 feet tall – can be tailored to *your* community's needs. For full details, write . . .

Snorkel **FIRE EQUIPMENT COMPANY**
Department FE-6 • Grandview, Missouri

IMPERIAL® FOG NOZZLES

Check these exclusive features...

Impinging, high-velocity center cone jets give dense, far-reaching fog

Circumference teeth "chew" stream even more thoroughly into fine particle fog

Resilient rubber bumper protects against damage, gives no-slip grip

Akron quality ball shut-off

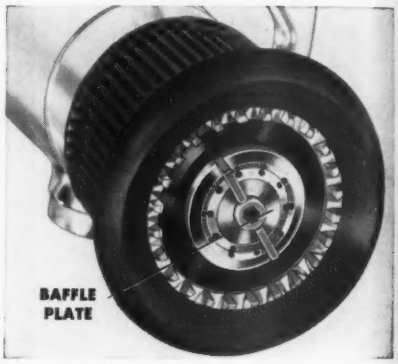
"Click" Positive stream positioning by feel or sight

Adjustable through all angles of fog

Swiveling "Rocker Lug" base — handle is always on top†

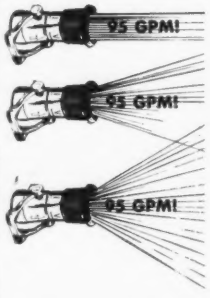
†Or Solid Base

See New Akron Brass Catalog 60—Page 2, 3



TWO GALLONAGES ONLY . . . no chance for confusion. Simple baffle plate adjustment gives either one.

CONSTANT GALLONAGE



The Imperial delivers the same gallonage in straight stream, narrow and wide fogs. This means no fluctuating pump pressure, no varying nozzle and back pressures.

AKRON BRASS
FIRE FIGHTING EQUIPMENT

AKRON BRASS MFG. COMPANY, INC.
WOOSTER, OHIO
AKRON MFG. (CANADA), LTD.
AYLMER, ONTARIO

Style	Size	Gallonage U.S.	Gallonage Imperial	Length	Weight Lbs.
709	¾"-1"	23	19	10"	3¾
708	¾"-1"	23	19	10⅞"	4½
715	1½"	95-60	80-50	6"	4¾
715R	1½"	95-60	80-50	5½"	4¼
725	2½" Direct Connection	240-120	200-100	8"	9
725R	2½" Direct Connection	240-120	200-100	7¾"	8¾
729	2½" for Play Pipe	240-120	200-100	7⅛"	7
729R	2½" for Play Pipe	240-120	200-100	7⅛"	6¾

Style	Size	Gallonage U.S.	Gallonage Imperial	Length	Weight Lbs.	Threads Base	Threads Tip
716	1½"	95-60	80-50	7¼"	5	1½"	1½"
726	2½"	240-120	200-100	9¾"	10⅛	2½"	1½"
728	2½"	240-120	200-100	8¾"	7⅞	1½" NST or Any 1½"	1½"
730	2½"	240-120	200-100	15⅛"	14¾	2½"	1½"

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Weight Lbs.
3¾
4½
4¾
4¼
9
8¾
7
6¾

Tip
1½"
1½"
1½"
1½"